STAFF REPORT FOR THE PLANNING COMMISSION MEETING OF MAY 30, 2018

FILE NO: MPA-17-185 and ZMA-17-186 **AGENDA ITEM: G.4 & G.5**

STAFF CONTACT: Hope Sullivan, AICP, Planning Manager

AGENDA TITLE:
For Possible Action: To adopt a resolution recommending to the Board of Supervisors approval of a Master Plan Amendment to create a new Specific Plan Area for 26.89 acres of the existing Lompa Ranch Specific Plan Area, located at the east end of Railroad Drive and west of Interstate 580, APN 010-051-44.

For Possible Action: To recommend to the Board of Supervisors approval of a Zoning Map Amendment to change the zoning from Agriculture (A) to Single Family 6,000 (SF6) on 26.89 acres of the existing Lompa Ranch Specific Plan Area, located at the east end of Railroad Drive and West of Interstate 580, APN 010-051-44.

STAFF SUMMARY:
The subject property is identified in the City's Master Plan as part of the Lompa Ranch Specific Plan Area. Consistent with the Lompa Ranch Specific Plan Area Policies, lands within this area are required to have a new Specific Plan adopted, as well as rezoning. The proposed Specific Plan will address design standards and guidelines, as well as public services and infrastructure. The applicant is seeking a zoning designation of Single Family 6,000.

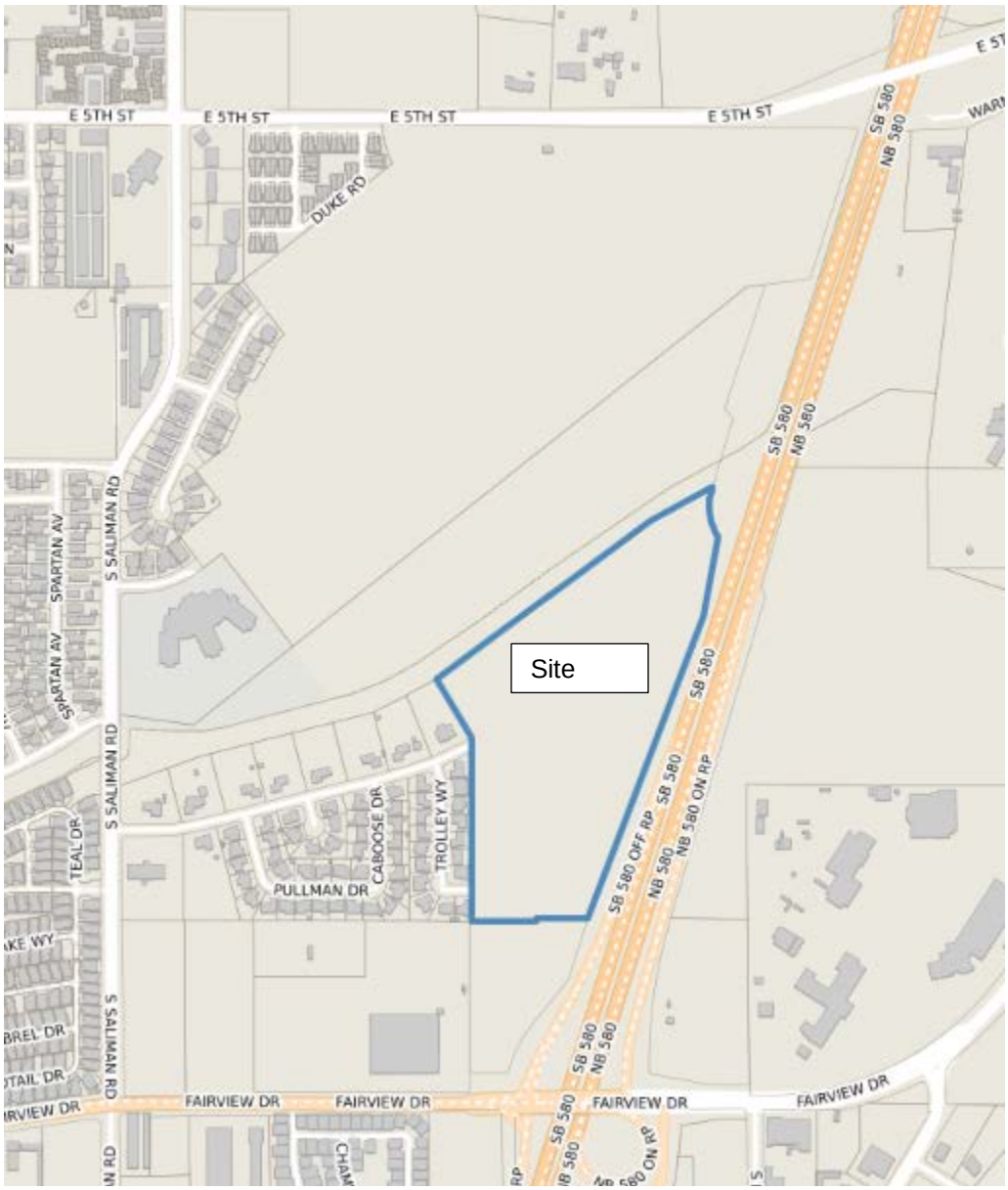
RECOMMENDED MOTIONS:
"I move to adopt Resolution No. 2018-PC-R-3 recommending to the Board of Supervisors approval of MPA-17-185, a Master Plan Amendment to create a new Specific Plan Area for 26.89 acres of the existing Lompa Ranch Specific Plan Area, located at the east end of Railroad Drive, APN 010-051-44 based on the findings contained in the staff report and subject to the incorporation of modified language to policies 3.1.2.b and 3.1.2.c as follows:

> ***3.1.2.b The Unified Pathways Master Plan (UPMP) identifies two non-motorized path systems adjacent to the subject property. Future development plans will provide for path connectivity from the proposed development to the City's Linear Park multi-use path along the west side of the Carson City Freeway. These two neighborhood access corridors shall be approximately 30 feet wide and have ten foot wide multi-use paths located in them. A public access easement or a similar legal instrument will be utilized to grant public access in perpetuity for these two neighborhood access corridors. The applicant will prepare the legal documents and record with final map.***
>
> ***3.1.2.c Chapter 7 in the UPMP provides the City's sidewalk policies and implementation strategies for pedestrian connectivity within developments and between project sites and the City's existing sidewalk / path systems. The design of the sidewalk system, including pedestrian crosswalks, connections to the adjacent residential neighborhood, and connections to the City's non-motorized path system will be reviewed for consistency with the UPMP at the time development is proposed."***

"I move to recommend to the Board of Supervisors approval of ZMA-17-186, a Zoning Map Amendment to change the zoning designation from Agricultural to Single Family

6,000 on a 26.89 acre property located at the east end of Railroad Drive, APN 010-051-44, based on the findings contained in the staff report."

Vicinity Map
Exhibit 1



RECOMMENDED CONDITIONS OF APPROVAL: None

LEGAL REQUIREMENTS: CCMC 18.02.070 (Master Plan) & CCMC 18.02.075 (Zoning Map and Zoning Code Amendment)

MASTER PLAN DESIGNATION: Medium Density Residential (MDR)

ZONING DISTRICT: Agriculture (A)

KEY ISSUES: Does the request meet the findings required for a Master Plan Amendment? Does the request meet the findings required for a Zoning Map Amendment?

SURROUNDING MASTER PLAN:
NORTH: Parks and Recreation
SOUTH: Community / Regional Commercial
WEST: Medium Density Residential
EAST: Industrial

SURROUNDING ZONING AND LAND USE INFORMATION:
NORTH: Public Community / Linear Park
SOUTH: Limited Industrial / Vacant
WEST: Agriculture/ Interstate 580
EAST: Single Family 21,000 square feet Planned Unit Development (SF21-P)/ Single Family Homes

ENVIRONMENTAL INFORMATION:
FLOOD ZONE: Zone X (area of minimal flooding) and Zone AH (100 year flood plain)
SLOPE: Flat
SEISMIC ZONE: Zone II (Moderate)
FAULT: Within 500 feet

SITE DEVELOPMENT INFORMATION:
SUBJECT SITE AREA: 26.89 acres
EXISTING LAND USE: Vacant land

SITE HISTORY:
None

BACKGROUND:
The Carson City Master Plan was adopted on April 6, 2006. As stated in Chapter 1 of the Master Plan:

> *"This Master Plan is an officially adopted advisory document that outlines Carson City's vision and goals for the future and provides guidance for elected and appointed officials in making choices regarding the long-range needs of the community. The written goals and guiding principles, policies, and recommended actions, in combination with the Land Use Map, provide guidance for decisions affecting growth, the use and development of land, preservation of open space and the expansion of public facilities and services. The Master Plan consists of both written policy recommendations and maps, which should be used together when making decisions. It is also recognized that this document should be reviewed annually at a public hearing and revised as needed to reflect the availability of new implementation tools, changes in State and Federal law, changes in funding sources, the results of monitoring the effectiveness of existing policies and the impact of past decisions, as well to reflect changes in the community's vision for the future."*

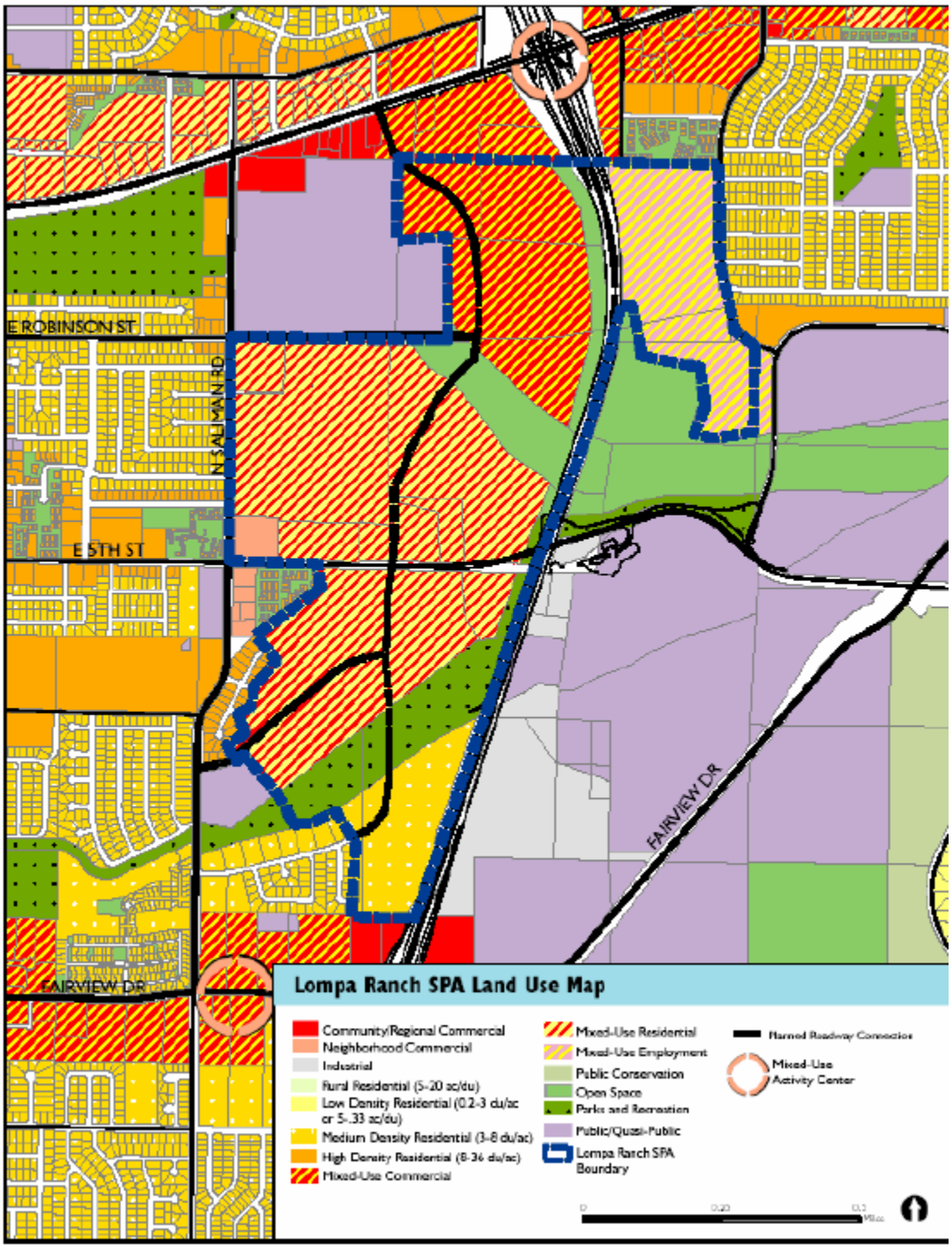
When the Carson City Master Plan was adopted in 2006, it included a specific plan area for the Lompa Ranch that established policies to provide framework for the future development of the property. The map from the existing Master Plan depicting the Lompa Ranch Specific Plan area is included as Exhibit 2 in this report. The Lompa Ranch Specific Plan Area (SPA) policies were

created to ensure that any development of this large area of vacant land would accomplish the following:

- Provides for a comprehensive Development Plan for a balanced mix of land uses and a variety of housing options;
- Ensures the creation of cohesive neighborhoods within the SPA;
- Ensures adequate vehicular and non-motorized circulation throughout the SPA;
- Ensures the compatibility of future development with established neighborhoods in the area;
- Ensures that adequate public facilities and services will be provided to serve the area;
- Will not adversely impact the public health, safety and welfare.

Per the LR-SPA, adoption of a new SPA and rezoning of the areas with the LR-SPA is required. The new SPA and the rezoning must be in compliance with the existing Specific Plan policies that exist in Chapter 8 of the City's Master Plan. The intent of the new SPA is to more specifically define the design standards and infrastructure provisions consistent with the existing Master Plan.

Existing Lompa Ranch SPA as Adopted in the City's Master Plan in 2006
Exhibit 2



The subject 26.89 acre property is located within the SPA. The land use designation per the SPA is Medium Density Residential. Per the requirements of the Master Plan, the applicant is seeking approval of a Specific Plan, called the Blackstone Ranch Specific Plan, that addresses Design Standards and Guidelines, and Public Services and Infrastructure. The applicant is also seeking a zoning map amendment to zone the land Single Family 6000.

Of note, the Board of Supervisors adopted the Lompa Ranch North Specific Plan in April 2016. That plan includes the portion of Lompa Ranch north of Fifth Street, and includes the following mix of land use designations:

- Medium Density Residential (MDR)
- High Density Residential (HDR)
- Mixed-Use Residential (MUR)
- Neighborhood Commercial (NC)
- Mixed-Use Commercial (MUC)
- Open Space (OS)

As previously noted, the proposed Specific Plan must be consistent with the policies of the existing SPA. Staff finds the proposed Specific Plan to be consistent with the policies of the existing SPA as noted below.

LR-SPA 1.1—Specific Plan Area Requirement
The Master Plan Land Use Map identifies a mix of uses for the property but is merely intended as a guide for future development of the property. Prior to any development occurring on the property, a new Specific Plan Area (SPA) must be approved to more specifically establish land uses, densities, design standards, and other standards pursuant to the general policies of this SPA. The SPA shall modify the Land Use Map, as appropriate, to identify land use areas, parks, open space, drainage facilities, etc. Appropriate zoning of the property may be included as part of the SPA process.

The applicant has proposed a new Blackstone Ranch Specific Plan to comply with this policy requirement. The existing Master Plan Land Use Map identifies the subject property as Medium Density Residential. The applicant is seeking zoning consistent with that designation.

The Blackstone Ranch SPA provides design standards based on single family residential lots on lots that are a minimum of 6,000 square feet. The guidelines housed in the Blackstone Ranch SPA address architectural style, fencing, landscaping, and lighting. The Public Services and Infrastructure provisions addresses trails, open space, sanitary sewer, water service, stormwater management, utility service, roadways, traffic impacts, and schools.

LR-SPA 1.2—Mix of Land Uses
The SPA encourages a mix of land uses, including a variety of residential densities, employment/office uses and commercial uses to serve the local neighborhood as well as the region. The incorporation of higher density housing within the mixed-use commercial area to compliment retail and employment uses is encouraged. The final SPA shall establish guidelines for the mix of uses desired within the Activity Center and the appropriate configuration (i.e. vertical or "stacked" mixed-use, or horizontal or "side-by-side" mixed-use) of uses within it.

The development of the subject property constitutes a relatively small segment of the overall Lompa Specific Plan area. This particular area is designated for Medium Density Residential, whereas other areas are designated as Mixed Use Residential and Mixed Use Commercial. The overall buildout of Lompa Ranch will yield a diversity of uses. However, the Blackstone Ranch Specific Plan will provide for medium density residential uses as opposed to a diversity of uses.

LR-SPA 1.3—Development of Activity Center
The Master Plan Land Use Map identifies an "Activity Center" in the vicinity of the freeway and Highway 50 East. In the Mixed-Use Commercial portion of the property, an Activity Center should be integrated into the surrounding neighborhood and should incorporate a mix of complementary uses (including residential), increased densities, clear pedestrian connectivity and other transit supportive features.

While an Activity Center is not specifically identified in the new Blackstone Ranch SPA, the proposed SPA does address connectivity issues including trails and roadways that will allow for access to the Activity Center.

LR-SPA 1.4—Mix of Housing Types
A range of housing types shall be included in the SPA, including single-family detached, single-family attached, duplexes, multi-family residential units and housing included as part of the mixed-use development to meet varying functional and pricing needs. Single family neighborhoods shall provide a range of lot sizes.

The overall Lompa Ranch Specific Plan will, upon build out, have a variety of housing types. The housing included in the Blackstone Ranch Specific Plan will contribute to that variety. However, the housing in the Blackstone Ranch Specific Plan area will be medium density residential as opposed to a range of densities. This is consistent with the Lompa Ranch Specific Plan.

LR-SPA 1.5—Compatibility with Existing Neighborhoods
Land use patterns and development intensity shall be designed to provide for compatibility with existing, surrounding neighborhoods, including consideration of lot sizes and development intensities adjacent to existing residential neighborhoods.

The subject property is somewhat isolated in that it has a freeway to the east, a recreational linear park to the north, and vacant industrial land to the south. The one area where compatibility is a consideration is the residential area to the west. The subject property is planned for medium density residential, thus resulting in residential uses adjacent to residential uses. The intensity of uses in the area to the west is somewhat diverse in that the properties on the northside of Railroad Drive are one acre lots, while the lots on Trolley Way are in the 7,000 square foot range. The applicant is proposing a Single Family 6000 zoning district that would yield a minimum lot size of 6,000 square feet, but has included Policy 2.1.1.b which states "Neighborhood density shall properly relate to adjoining developed areas and provide for transition between neighborhood types. Proper transitions can include feathering of density / lot size, landscape buffers, or walls/fences that serve to identify community boundaries." Incorporation of this policy will allow for the Planning Commission and the Board to consider the lot sizes abutting Trolley Way homes during the tentative map process.

LR-SPA 2.1—Roadway Linkages
The general vehicular circulation network shall be established with the final SPA to connect the neighborhood within the SPA and surrounding neighborhood and shall include, at a minimum:

- *a north-south collector between Highway 50 East and Fifth Street;*
- *connection of the north-south collector to Robinson Street;*
- *a collector from Fifth Street to Railroad Street across the Linear Park;*
- *and other roadways and connections as required by a traffic study.*

The Blackstone Ranch SPA addresses the Roadway. Section 3.6.b states:

"Railroad Street will be extended as a collector street to the northern boundary of the Linear Park. All development plans, including construction plans, will reflect this improvement and the road will be constructed at the time of site improvement. Consistent with the Lompa Ranch SPA, the intent of the collector street is to connect Railroad Street to Fifth Street."

When the property to the north of the linear park prepares its specific plan, consistent with policy LR-SPA 2.1, it will include a policy to continue the collector from the northern boundary of the linear park to Fifth Street.

LR-SPA 2.2—Traffic Study Requirement
A traffic study shall be required for review with the final SPA. The traffic analysis shall meet the requirements of the Carson City Development Standards and shall be conducted for the buildout of the entire SPA.

A traffic study is included in the Blackstone Ranch SPA. The Traffic Study concludes that no traffic mitigations are needed as all the study intersections operate at acceptable levels of service conditions with the addition of the project traffic. Per 3.7 of the Blackstone Ranch Specific Plan, a comprehensive traffic impact analysis for the overall Blackstone Ranch SPA shall be reviewed and approved with the tentative map. Additionally, updates to the master traffic impact analysis shall be provided for any project generating more than 80 peak hour trips to determine if roadway upgrades / improvements are triggered.

LR-SPA 2.3—Pedestrian and Bicycle Connections
Pedestrian and bicycle connections shall be provided to link all internal neighborhoods to each other and all areas of the development to:

- *the linear park south of Fifth Street and along Fifth Street;*
- *any commercial, mixed use or employment areas with the SPA;*
- *the Highway 50 East multi-use path;*
- *the high school;*
- *Saliman Street;*
- *any internal trails, open space and parks provided as part of the SPA development.*

Section 3.1.2 of the Blackstone Ranch SPA addresses Trails and Pathways. It calls for path connectivity from the future development on the subject property to the city's Linear Park multi-use path, and to the future north/south multi-use path along the west side of the Carson City Freeway. This is consistent with the recommendation in the Traffic Impact Study, which recommends that the project construct a connection to the multi-use trail north of the project site to provide for a quality walking and cycling connection to Freemont Elementary School.

Per 3.1.2.c, the design of the future projects internal pathway / sidewalk system will be reviewed for compliance with the Unified Pathways Master Plan at the time of development review.

To improve clarity, staff recommends that language associated with 3.1.2.b and 3.1.2.c be modified as follows:

3.1.2.b The Unified Pathways Master Plan (UPMP) identifies two non-motorized path systems adjacent to the subject property. Future development plans will provide for path connectivity from the proposed development to the City's Linear Park multi-use path along the west side of the Carson City Freeway. These two neighborhood access corridors shall be approximately 30 feet wide and have ten foot wide multi-use paths located in them. A public access easement or a similar legal instrument will be utilized to grant public access in perpetuity for these two neighborhood access corridors. The applicant will prepare the legal documents and record with final map.

3.1.2.c Chapter 7 in the UPMP provides the City's sidewalk policies and implementation strategies for pedestrian connectivity within developments and between project sites and the City's existing sidewalk / path systems. The design of the sidewalk system, including pedestrian crosswalks, connections to the adjacent residential neighborhood, and connections to the City's non-motorized path system will be reviewed for consistency with the UPMP at the time development is proposed.

LR-SPA 3.1—Floodplain and Drainage
The existing floodplain shall be identified based on FEMA mapping with post-freeway drainage improvements for development of the final SPA. In order to develop the property, drainage improvements will be required to mitigate the 100-year floodplain on the property. This may also require amending the FEMA mapping through a letter map amendment process. Once the new floodplain is determined, designated land use intensities shall be developed outside this floodplain area.

An overall storm water management plan shall be developed with the final SPA to ensure adequate drainage facilities to serve the entire SPA area.

A detailed wetlands delineation shall be provided with the final SPA identifying any areas that meet the Federal 404 definition of wetlands. Following wetland identification, designated land use intensities shall be developed outside the wetlands.

The applicant submitted a Conceptual Drainage Study with the application for a Specific Plan. This document has been reviewed by the City's Engineering Division, and incorporates design standards consistent with City standards and FEMA standards to accommodate one hundred (100) year peak flows, hence mitigating adverse storm water conditions and impact on downstream properties.

Section 3.4 of the Blackstone Ranch SPA addresses Stormwater Management. With respect to FEMA mapping, subsection "e" acknowledges that prior to the recordation of the final map, a Conditional Letter of Map Revision (CLOMR) must be approved with design recommendations for the channel to accommodate one-hundred year peak flows.

A wetland delineation is currently being prepared, and is anticipated to be complete by June 30, 2018. The wetland delineation will be incorporated into any future development plans, with an explanation of any mitigation requirements associated with the Federal permitting.

LR-SPA 4.1—Quality Design
The final SPA shall promote a variety and visual interest in the design of new residential neighborhoods through the incorporation of varied lot sizes, building styles and colors, garage orientation and other features.

The final SPA shall promote variety and visual interest in the design of new commercial centers through the incorporation of well-articulated building facades, clearly defined entrances and pedestrian connections, landscaping and other features.

The Blackstone Ranch SPA sets forth design standards that promote variety and visual interest for residential properties within the SPA area. The applicant has dedicated Chapter 2 in its entirety to design standards and guidelines that are intended to create a high level of quality in residential development within the SPA. The standards in the Blackstone Ranch SPA includes policies related to "forward" architecture, not allowing garages to dominate the building façade, providing visual interest in the streetscape pattern, limiting fencing materials, mandating

architectural features, limiting roof materials, and having architectural standards that promote an upscale development concept that reflects a western and ranching heritage while providing for modern features.

LR-SPA 5.1—Provision of Park, Multi-Use Paths and Open Space Facilities
Parks shall be provided commensurate with demand created by the SPA development consistent with the City's adopted Parks and Recreation Master Plan standards. Drainage and flood control areas may be used as part of the parks and multi-use trail system. Parks shall be connected to existing multi-use trail facilities. Parks, open space and multi-use path areas shall be generally depicted on the final SPA Land Use Plan.

Section 3.1 of the Blackstone Ranch SPA addresses Parks, Open Space, and Trails. No public parks will be incorporated into the development as the Parks and Recreation Master Plan does not call for them.

As previously noted, path connectivity to the City's Linear Park multi-use path located on the north side of the linear ditch and to the future north/south multi-use path along the west side of the Carson City Freeway will be incorporated into any future development. These pathways will be designated for public access in perpetuity. The internal pathway system will be evaluated for compliance with the UPMP at the time a development is proposed.

LR-SPA 6.1—Extension of Public Utilities
Water, sewer, storm drainage, gas, electric, telephone and cable television utilities shall be extended to serve the entire SPA and shall be coordinated with the applicable providers to ensure such facilities can be provided for the proposed development.

As part of the application for a Specific Plan, the applicant submitted Water and Sewer Demands for Saliman Road & Fairview Drive 26.89 Acre Conceptual Drainage Study, a technical document prepared by a licensed engineer. The City's Engineering Division has reviewed these documents.

Section 3 of the Blackstone Ranch SPA addresses Public Services and Infrastructure. Sanitary Sewer is addressed in Section 3.2. The policies obligate a future developer to preparing a final sewer report to demonstrate capacity to serve the development with each individual project. The site has no known constraints which would impact the ability to be served by a gravity fed extension of the public sewer.

Water is addressed in Section 3.3. Policy "b" states the sizing of water lines is to be sufficient to accommodate ultimate buildout, with a trunk line running in Railroad Drive.

Stormwater is addressed in Section 3.4. Policy "a" states that drainage channels shall be designed to contain the existing off-site watershed discharges as well as the existing discharges from the SPA area. Policy "b" states that existing drainage patterns shall be maintained.

Utility Services are addressed in Section 3.5. Policy "b" states that plans for electrical, natural gas, telephone, and cable service shall be reviewed and approved by the applicable purveyor prior to the issuance of a building permit.

LR-SPA 6.2—Undergrounding of Utilities
All utilities, including electric, shall be extended underground from their present locations to serve the development.

Section 3.5 of the Blackstone Ranch SPA states that all utility services within the new SPA shall be undergrounded and that overhead power lines shall be prohibited.

LR-SPA 6.3—School Facilities
The applicant shall work with the Carson City School District to establish adequate school sites and facilities, as necessary, to provide for adequate levels of service for the proposed development.

Section 3.8 of the Blackstone Ranch SPA provides for the future developer to provide estimated student enrollment projections to the Carson City School District.

LR-SPA 7.1—Adequate Public Safety Facilities
Adequate police and fire protection needs to be established within the SPA. Police and fire protection at an urban level of service needs to be demonstrated. Any additional services or facilities necessary to provide this level of service should be established on a prorated basis to serve the entire SPA.

No special or extraordinary services are incorporated into the Blackstone Ranch SPA. It is anticipated the future development of this site will not compromise the level of service.

LR-SPA 7.2—Fire Station Location
The applicant shall work with the Carson City Fire Department to identify potential fire station locations, including off-site locations in the vicinity, to adequately serve the proposed SPA development area.

This policy was addressed in the Lompa Ranch North Specific Plan.

PUBLIC COMMENTS: Public notices were mailed to 49 adjacent property owners within 600 feet of the subject parcels in accordance with the provisions of NRS and CCMC 18.02.045 on May 11, 2018. At the time of the writing of this report, staff has not received any formal comments. Staff did have an informal conversation with one abutting neighbor who suggested the incorporation of a sound wall along the freeway. This recommendation is not included in the document.

Any other comments that are received after this report is completed will be submitted prior to or at the Planning Commission meeting, depending on their submittal date to the Planning Division.

OTHER CITY DEPARTMENT OR OUTSIDE AGENCY COMMENTS:
All comments and revisions received by City departments have been incorporated into the document or into the motion.

FINDINGS: Staff recommends the following findings for approval of the Master Plan Amendment pursuant to the Carson City Municipal Code Section 18.02.070, Master Plan and 18.02.075, Zoning Map Amendments and Zoning Code Amendments.

Master Plan Amendment Findings

1. The proposed amendment is in substantial compliance with the goals, policies and action programs of the Master Plan.

As discussed in detail in the Discussion section in this staff report, the proposed Blackstone Ranch SPA is in compliance with policies set forth in the original Lompa Ranch SPA.

2. The proposed amendment will provide for land uses compatible with existing adjacent land uses and will not have detrimental impacts to other properties in the vicinity.

The proposed amendment provides for land uses that are compatible with existing adjacent land uses by creating the same or similar land use designations and intensities. The proposed SPA also includes a policy 2.1.1.b to specifically address compatibility, stating "Neighborhood density shall properly relate to adjoining developed areas and provide for transition between neighborhood types. Property transitions can include feathering of density/lot size, landscape buffer, or walls/fences that serve to identify community boundaries." This policy will be implemented during the review of a development project.

3. The proposed amendment is in response to changed conditions that have occurred since the plan was adopted and the requested amendment represents a more desirable use of land.

It has been anticipated that development would ultimately occur on the Lompa Ranch. The 2006 Carson City Master Plan adopted a SPA for the Lompa Ranch area that outlined, in general terms, desired land use designations and policies for future development. A requirement of the original Lompa Ranch SPA was to create and adopt a new SPA for the area to address development. The proposed amendment is in response to this requirement and represents the desired use of the land as set forth in the original Lompa Ranch SPA.

4. The requested amendment will promote the desired pattern of orderly physical growth and guides development based on the projected population growth with the least amount of natural resource impairment and the efficient expenditure of funds for public services.

The requested amendment creates a new SPA for the Lompa Ranch properties on the east end of Railroad Drive. It provides development policies and design standards that promote desired growth patterns and quality development for the area as envisioned with the 2006 adoption of the original Lompa Ranch SPA.

Zoning Map Amendment Findings

1. The proposed amendment is in substantial compliance with and supports the goals and policies of the Master Plan.

The original Lompa Ranch SPA states in Policy LR-SPA 1.1 – Specific Plan Area Requirement, that appropriate zoning of the property may be included as part of the SPA process. The applicant is proposing a Zoning Map Amendment in conjunction with the adoption of the Blackstone Ranch SPA that will make the underlying zoning of the

properties consistent with the land use designations proposed with the new SPA, and will support the goals and policies set forth in the new SPA.

2. That the proposed amendment will provide for land uses compatible with existing adjacent land uses and will not have detrimental impacts to other properties in the vicinity.

The proposed Zoning Map Amendment will change the zoning of the Blackstone Ranch SPA properties to Single Family 6000. This is a residential zoning district that will be compatible with existing adjacent land uses, particularly those residential uses located to the west of the site.

3. That the proposed amendment will not negatively impact existing or planned public services or facilities and will not adversely impact the public health, safety and welfare.

The proposed Zoning Map Amendment is consistent with the proposed land use designations in the proposed Blackstone Ranch SPA and is appropriately proposed for adoption at the same time as the new SPA. Provisions have been set forth in the policies and development standards of the new SPA to ensure that public services and facilities are adequately planned for and will not adversely impact the public health, safety and welfare.

Attachments:

Planning Commission Master Plan Amendment Resolution 2018-PC-R-3
Blackstone Ranch Specific Plan Design Guidelines Dated May 10, 2018.
Blackstone Ranch Master Plan Amendment and Zone Change Application

RESOLUTION 2018-PC-R-3

A RESOLUTION RECOMMENDING TO THE BOARD OF SUPERVISORS APPROVAL OF MPA-17-185, A MASTER PLAN AMENDMENT TO CREATE A NEW SPECIFIC PLAN AREA FOR THE SOUTHEAST PORTION OF THE EXISTING LOMPA RANCH SPECIFIC PLAN AREA ON PROPERTY LOCATED AT THE EAST END OF RAILROAD DRIVE AND WEST OF INTERSTATE 580, APN 010-051-44.

WHEREAS, NRS 278.210 requires that any adoption of a Master Plan Amendment shall be by resolution of the Planning Commission; and

WHEREAS, the Planning Commission has given proper notice of the proposed amendment in accordance with the provisions of NRS and CCMC 18.02.070, and is in conformance with City and State legal requirements; and

WHEREAS, on May 30, 2018, the Planning Commission obtained public testimony and duly considered recommendations and findings for the proposed master plan amendment and approved Master Plan Amendment MPA-17-185 by an affirmative vote of a two-thirds majority of the Commission, at least five members of the seven-member Commission, pursuant to NRS 278.210, based on four findings of fact; and

WHEREAS, the proposed Master Plan land use designations and Specific Plan Area would be consistent with the existing and intended uses of the property;

NOW, THEREFORE, the Carson City Planning Commission hereby recommends to the Board of Supervisors approval of the Master Plan Amendment to create a new Specific Plan Area for the southeast portion of the existing Lompa Ranch Specific Plan Area located at the east end of Railroad Drive and west of Interstate 580, as illustrated in the attached “Exhibit A”, the Blackstone Ranch Specific Plan Design Guidelines approved with staff’s recommended changes as MPA-17-185, and incorporated into this Resolution by reference.

ADOPTED this 30th day of May, 2018

VOTE: AYES: _____

_____

_____

_____

_____

NAYS: _____

ABSENT: _____

Mark Sattler, Chairman

ATTEST:

LEE PLEMEL, AICP
Community Development Director

EXHIBIT A

Blackstone Ranch Specific Plan
Design Guidelines

Prepared by:

RUBICON
Design Group

MPA - 17 - 185

ZMA - 17 - 186

May 10, 2018

BLACKSTONE RANCH SPECIFIC PLAN

DESIGN STANDARDS

Prepared for:

Blackstone Development Group
439 W. Plumb Lane
Reno, Nevada 89509

Prepared by:

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Rubicon Design Group, LLC
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Reno, Nevada 89509
(775) 425-4800

May 10, 2018

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1. Introduction

1.1 Location

The Blackstone Ranch Specific Plan Area encompasses 26.89± acres located west of Interstate 580, north of Fairview Drive, at the east end of Railroad Drive. Figure 1 (below) depicts the Lompa Ranch in context with the surrounding area.

Figure 1 – Blackstone Ranch Specific Plan Area

1.2 Purpose

The purpose of this Development Handbook is to provide for the orderly development of the Blackstone Ranch Specific Plan Area (SPA) as envisioned, while assuring that the stated desired level of quality is achieved. With the implementation of public and private improvements, the standards and guidelines contained herein establish a common framework to guide improvement plans. The development of the property is controlled and restricted by these development requirements as well as by all applicable

government codes and regulations. This Development Handbook is not intended to limit creativity or prevent variation necessary to respond to unique site conditions, but rather to generate consistency and quality throughout the SPA.

This SPA is for the Blackstone Ranch property specifically identified with this document. Future development of the remaining Lompa Ranch properties as identified in the 2006 Carson City Master Plan shall be required to receive approval of a new SPA for those areas prior to development.

1.3 Vision

The Blackstone Ranch SPA is intended to provide for a sustainable community that includes a range of land uses that complement not only each other but those that currently exist outside of the SPA boundaries. The vision is to provide for a viable community that promotes a variety of housing types which will be supported by well-balanced commercial, recreational, and educational opportunities in the surrounding community.

Complementing the neighborhood within Blackstone Ranch will be a network of sidewalks and pathways throughout the community, providing non-vehicular connectivity to the regional components of the area. Throughout Blackstone Ranch, consistent design themes, entries, and landscape treatments will establish a sense of place/community and recall the property's ranching roots.

1.3.1 Land Use Pattern

The land uses within Blackstone Ranch provides for compatible densities and intensities to the surrounding areas. This will result in a synergy that attracts both residents to the neighborhood and businesses to the surrounding area, supports walkability within the community to commercial, recreational, employment, and public activities, and minimizes the consumption of land associated with traditional suburban development by encouraging and creating a more compact development pattern that is efficient for infrastructure, public services, and maintenance.

1.3.2 Sense of Place and Community

Creating a sense of place is one of the key components in creating a vibrant and balanced community. A sense of place is fostered within Blackstone Ranch by creating human-scale environments in which the individual can feel both comfortable and safe. This includes provisions for walking paths and common design themes. Furthermore, the Blackstone Ranch SPA promotes and provides for connectivity between various neighborhoods and uses that are integrated through the design standards included within this handbook.

1.3.3 Diverse Housing Mix

The Blackstone Ranch SPA provides for neighborhood diversity by allowing for a mix of product types to support a wide range of resident interests and needs. The density included in the SPA will also support and complement planned commercial uses within the surrounding area. Furthermore, this diversity in housing types serves to break up the monotony of traditional residential development by reinforcing the dynamics of character and identity within the neighborhood.

1.3.4 Implementation

This handbook will be used by the Carson City Community Development Department as a guide for reviewing future projects within the boundaries of the Blackstone Ranch SPA.

1.4 Allowed Uses

Allowed uses within the Blackstone Ranch SPA shall be determined based on the underlying zoning categories, as included in the Carson City Municipal Code Title 18. The zoning districts included within Blackstone Ranch are depicted below:

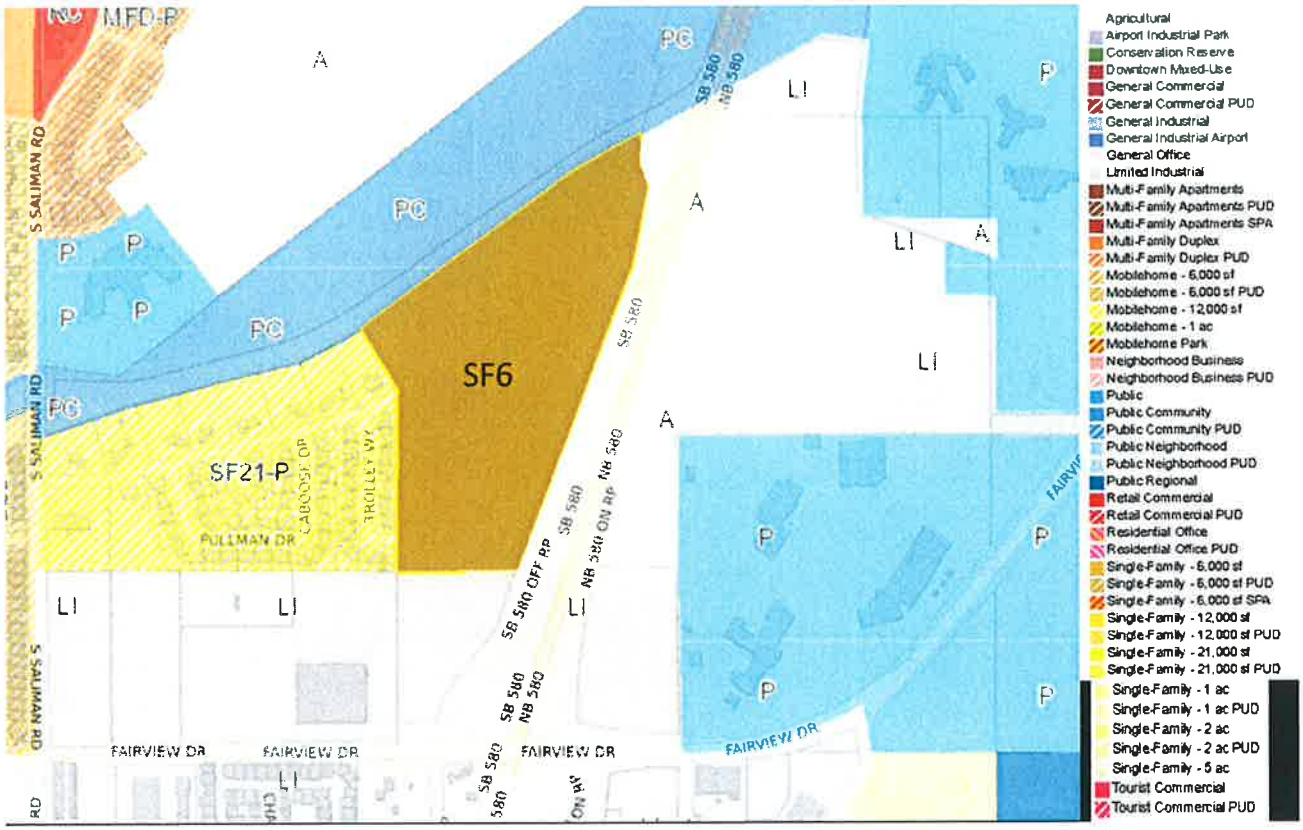

Figure 2 – Blackstone Ranch Zoning

Master Plan land use designations for the Lompa Ranch SPA are included below:

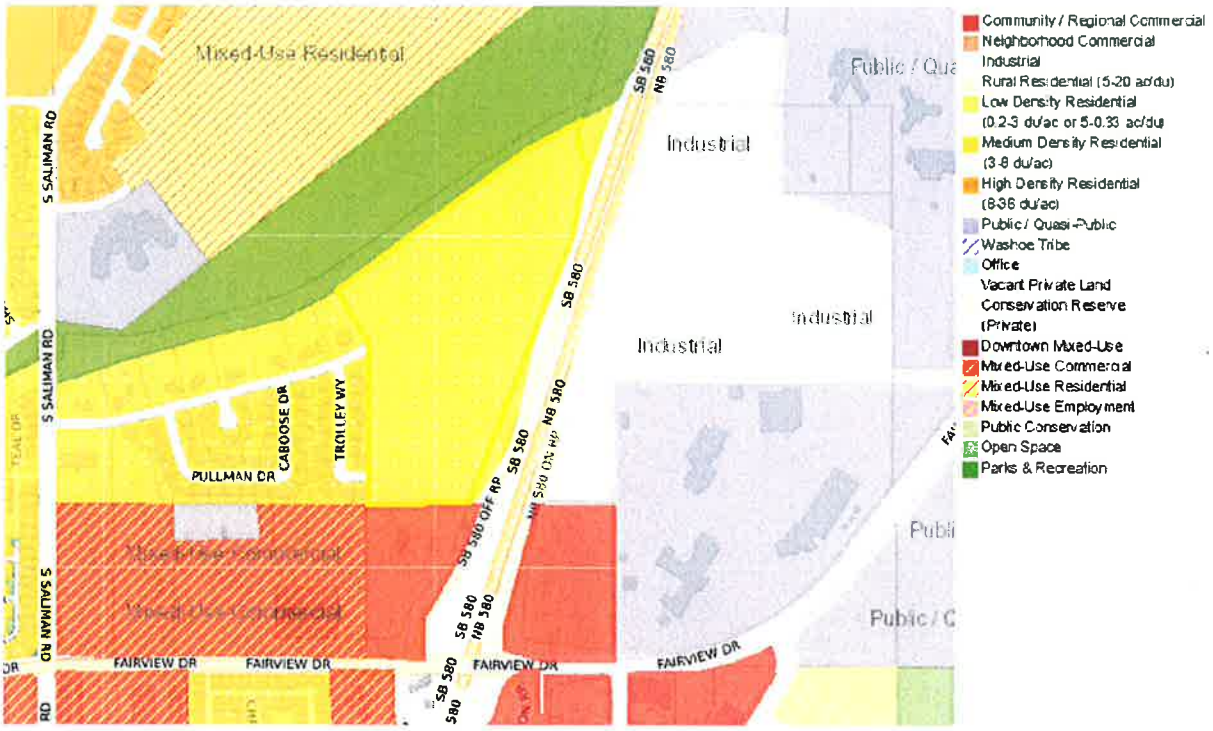

Figure 3 – Blackstone Ranch Land Use

1.4.1 General Standards

a) The Blackstone Ranch SPA is envisioned to include single-family residential uses on lots consisting of a minimum of 6,000 square feet.

b) Land use is determined based on zoning. Zoning adopted with this Specific Plan shall be reviewed and approved by the Carson City Planning Commission and Board of Supervisors and deemed to be appropriate for the site(s).

c) Uses within Blackstone Ranch shall conform to the underlying zoning district(s) assigned to the individual parcels as outlined in Title 18 of the Carson City Municipal Code

d) Supplemental review required for specific uses within zoning categories such as Special Use Permits shall remain in effect per the Carson City Municipal Code (refer to allowed uses within individual zoning categories).

e) This Specific Plan shall not grant any special privileges or waivers in terms of public review or entitlements otherwise required under the Carson City Municipal code in terms of allowed uses or supplemental review.

2 Design Standards and Guidelines

The site planning standards and guidelines address general provisions of site development which include building orientation, grading and drainage, parking areas, landscape, lighting, signs, walls and fences, and service areas. Site planning controls the proper placement of buildings and internal roads that service and access the community. It addresses the linkages and land use relationships at a human-scale, in order to create a stimulating and visually pleasant community. The goal is to promote pedestrian activity and safety, create visual compatibility with surrounding neighborhoods and minimize negative impacts on the natural environment.

2.1 Single Family Residential Areas

2.1.1 Neighborhood Diversity

Single family areas within the Blackstone Ranch SPA will include varied housing types in order to create visual interest within the project. This can be accomplished through the use of varied housing types, distinct architectural styles and elements, etc.

a) Densities within single family areas will average approximately 4-7 dwelling units per acre.

b) Neighborhood density shall properly relate to adjoining developed areas and provide for transition between neighborhood types. Proper transitions can include feathering of density/lot size, landscape buffers, or walls/fences that serve to identify community boundaries.

c) The Blackstone Ranch SPA boundary may create its own sense of identity through the use of entry features that include distinctive signage, entry treatments, landscape improvements, water features, etc.

d) The density found within the Blackstone Ranch SPA can encourage varied product types including single family detached homes, patio homes, clustered houses, etc. Additionally, new urbanism design principles such as house-forward designs with residential alleyways are permitted within the SPA.

e) A single architectural style is encouraged throughout the SPA in order to provide a cohesive neighborhood identity to the Blackstone Ranch.

2.1.2 Single Family Neighborhood Design

The neighborhood within Blackstone Ranch will promote quality development that is complementary to the existing built environment, while establishing its own sense of identity through uniform and innovative design standards.

a) To the extent possible, "forward" architecture shall be used in the design of homes. This is accomplished by placing entries, windows, front porches, and living areas towards the street on most plan variations.

b) With the exception of zero lot line lots, plans should be reversed and plotted so that garages and entries are adjacent to each other. This creates an undulating sense of setback. Occasionally this pattern should be broken so that it will not become overly repetitious or reflected by the massing across the street.

c) The garage shall not be the dominant feature of the building facade facing the street and should be offset through architectural detailing for garage forward elevations.

d) So as not to contribute to a repetitious and monotonous appearance along the street, the use of varying building setbacks from the street right-of-way is encouraged.

e) The neighborhood shall provide connections into the surrounding community trail system as outlined in Section 3.1.2 of this document.

g) In order to avoid a "walled-in" feel, homes backing to parks, open space, or drainage corridors may include open rear fencing. This includes the use of split rail or iron fencing. See example to right.

h) Setbacks for single family residential areas shall comply with the underlying zoning district for which the subdivision is located. In order to provide for visual interest within the streetscape, front setbacks may be reduced up to 5 feet in order to achieve a non-monotonous/repetitive streetscape pattern.

2.1.3 Single Family Grading

a) The design of residential neighborhoods shall be sensitive to the natural terrain, and structures shall be located in such a manner so as to preserve natural site features and drainage ways. Any grading of the site terrain shall blend with the natural topography of the site.

b) Graded slopes shall be rounded resulting in smooth, harmonious transitions between the man-made terrain and the natural terrain.

c) All graded slopes shall be revegetated prior to building occupancy. If climatic conditions or other circumstances prevent planting at the time of occupancy a bond shall be provided for landscaping during the subsequent growing season or other arrangements made for revegetation, subject to the approval of the administrator. Drought tolerant plant species shall be utilized to help minimize erosion.

2.1.4 Single Family Landscaping

a) Front yard landscaping shall be installed by the builder prior to the occupancy of the individual home. See example to right.

b) Front yard landscape packages shall provide for a minimum of 1 tree per 50 lineal feet of street frontage as well as a minimum of 12 shrubs. Trees shall be a minimum of 1-inch caliper for deciduous and 6 feet for evergreens. Shrubs shall be a minimum of 2 gallon.

c) Xeriscape options for front yards shall be permitted. Xeriscape packages must include the required trees and shrubs outlined under the previous standard.

TYPICAL FRONT YARD PLAN

d) Front yard landscaping is required for all homes and will be reviewed and approved with the tentative map establishing installation timing.

e) Front yard landscape packages shall include an automatic irrigation system.

2.1.5 Single Family Lighting

a) Lighting shall be designed to emphasize community amenities, provide continuity along street corridors, and ensure the safety of residents and users.

b) Exterior lighting shall be shielded from projection offsite and designed to be compatible with the architectural and landscape design of the home.

2.1.6 Single Family Walls and Fencing

a) Walls may be used where necessary to provide privacy and security for residential neighborhoods when adjacent to arterial or collector roadways, or when adjoining non-residential uses.

b) Walls within the community shall not become the dominant visual element and walls where needed shall blend into the overall landscape.

c) Walls within Blackstone Ranch shall not exceed 6 feet in height. Acceptable materials include stone, stone veneer, split face/precision block, slump stone, and stuccoed CMU.

d) Open fencing may be used where the rear of individual lots are adjacent to open space. See examples below.

e) Open fences at rear yards may include landscaping with trees and shrubs to screen views of private yards from adjacent properties, common areas, and/or roadways.

f) Acceptable open fencing materials include wood or vinyl split-rail or wrought iron. See examples below.

g) Single family residential lots may include solid privacy fences. Acceptable materials include wood and vinyl. Privacy fencing shall not exceed 6 feet in height.

h) Chain link fencing is prohibited within residential areas.

2.2 ARCHITECTURE STANDARDS AND GUIDELINES

2.2.1 Architectural Theme

It is the intent of the Blackstone Ranch SPA to promote a high-quality development that incorporates an architectural style that reflects the historical ranching aspect of the area. Therefore, a ranch and craftsman architectural theme is adopted with the Blackstone Ranch SPA.

Variations on the ranch/craftsman style are encouraged in order to promote creative design, innovative features, and high-quality elevations. Variations may include the introduction of southwestern elements such as barrel tile roofs or Victorian elements such as wrap-around porches. These deviations will be complementary to the overall theme and can add visual interest within the community.

2.2.2 Residential Architectural Elements

a) New structures within Blackstone Ranch shall, at a minimum, incorporate a minimum of two of the following elements:

- Gable roofs with deep overhangs.
- Exposed rafters, brackets, columns, etc.
- Decorative doors and windows
- A mixture of 2 (at a minimum) exterior elements including stucco, wood siding or shingles, brick, or stone
- Exterior porches or courtyards

b) Acceptable roofing materials include concrete or clay tile, slate, or architectural grade (30+ year) composition asphalt shingles. Metal roofing may be used as an architectural element in conjunction with the previously listed materials.

c) Flat roofs are prohibited in residential areas.

d) Metal buildings, other than accessory sheds not to exceed 250 square feet, are prohibited.

e) Modular homes are not permitted within the Blackstone Ranch SPA.

f) Building articulation shall include a minimum of 4 separate roof planes incorporated on front/primary elevations. Front/primary elevations shall contain a minimum of 2 wall planes offset by a minimum of 3 feet.

g) Building colors shall utilize an earth tone pallet such as browns, tans, whites, greens, deep reds and oranges, pale yellows, etc. The use of bright or vibrant colors is prohibited with the exception of highlighting architectural elements.

2.2.3 Single Family Residential Architecture

Architectural standards for residential areas promote an upscale development concept that reflects a western and ranching heritage while providing for modern features. Although neighborhoods may include distinctive architectural designs, common elements serve to create a cohesive community that creates a sense of place.

2.2.4 Single Family Building Mass and Form

a) Home facades shall incorporate the architectural style and materials outlined in section 2.2.2.

b) A minimum of 3 distinctive floor plans shall be used within the subdivision.

c) Architectural details and stylings used on the front of the home shall be carried over to all elevations.

d) A minimum of 3 distinctive front elevations shall be included for each model within the subdivision. Matching elevations shall not be allowed to repeat next to each other.

e) Varied setbacks, floorplans, and elevation packages shall be used within the subdivision to create a visually interesting streetscape.

2.2.5 Single Family Roof Form

a) Roof planes are required to vary through the use of architectural features such as dormers, gables, hipped roofs, and variations in pitch appropriate to the home's chosen architectural style.

2.2.6 Single Family Materials and Colors

a) As mandated within other provisions of this handbook, single family homes shall incorporate an earth tone color palette. The use of bright and vibrant colors is prohibited with the exception of enhancing key architectural elements and features.

b) Conflicting architectural styles within a single subdivision shall be prohibited.

c) Building materials and elements shall be consistent with those outlined under previous standards.

2.2.7 Single Family Garages

a) Garages shall include a minimum of 5 feet offset from inhabitable areas. Front elevations should provide focus on living areas and not garages.

b) Home plans shall incorporate one of the garage designs listed below and the subdivision shall incorporate both of these techniques to reduce the emphasis of the garage on the street (see examples below).

- Recessing garage back a minimum of five (5) feet in relationship to the front of the house.

- Incorporation of a side-load garage that eliminates the continuous view of garage doors from the street.

c) Garage forward plans shall be permitted when offsets (5 feet minimum) exist for the garage in order to provide visual distinction between the garage and residence. See examples below.

3 Public Services and Infrastructure

3.1 Parks, Open Space, and Trails

The Blackstone Ranch SPA envisions a community that is linked by pedestrian connectivity within the development and between the project site and the City's existing sidewalk/path system per Chapter 7 in the UPMP. The intent of these standards is to implement the provisions of the Unified Pathways Master Plan, Parks and Recreation Master Plan, and Open Space Master Plan adopted by Carson City.

3.1.1 General Standards

a) A Homeowners Association (HOA) shall be formed by the Master Developer to provide for the maintenance and upkeep of any open space, landscaping, trails, and amenities. The HOA shall be in place prior to the issuance of the first certificate of occupancy.

b) Design of any open space areas shall follow the standards and policies of the Carson City Open Space Master Plan, adopted by Carson City in June 2000.

c) Sidewalks and pathways, unless otherwise described in this document, shall conform to the standards and policies of the Unified Pathways Master Plan adopted by Carson City on April 6, 2016 (as revised March 15, 2007).

3.1.2 Trails and Pathways

a) Trails, pathways, and sidewalks not specifically called out within this section shall conform to the standards outlined in Section 6 of the Carson City Unified Pathways Master Plan (Pathway Types).

b) Pathways shall be constructed as identified in the Unified Pathways Master Plan. The developer shall provide path connectivity to the linear park multi-use path to the north and to the future multi-use path along the east side of Interstate 580 subject to review and approval both Development Engineering and the Parks, Recreation, and Open Space Department. An access agreement or similar legal instrument is required to be in place prior to the issuance of the first building permit to provide access to these multi-use pathways in perpetuity.

c) The developer shall be required to demonstrate that trail connectivity between parks, trails, and the overall open space network is being provided prior to tentative map approval. This shall be to the satisfaction of the Community Development and Parks and Recreation Departments.

3.1.3 Open Space

a) Drainage channels shall be incorporated into any private open space areas.

b) Open space areas shall be maintained through a private homeowners' association (HOA).

c) Landscape medians, parkways, corridors, etc. included within common or open space areas shall be maintained by a private homeowners' association (HOA).

d) Any open space areas that remain private shall not include public access (if privately owned) and shall be maintained by a private homeowners' association (HOA).

3.1.4 Parks – General Standards

a) No public parks will be located within the Blackstone Ranch neighborhood.

b) Development of the Blackstone Ranch neighborhood is subject to collection of Residential Construction Tax compliant with Carson City Municipal Code Section 15.60.

c) Best management practices are required to be included in construction documents along with specification to reduce the spread of noxious weeds onto Carson City property.

d) Small private parks or pocket parks may be permitted within individual subdivisions but shall be maintained by an HOA.

3.2 Sanitary Sewer

a) All new development within the Blackstone Ranch SPA shall be required to connect to municipal sanitary sewer service.

b) A final sewer report demonstrating capacity to serve the development shall be submitted with each individual project within the SPA boundary.

c) The site has no known constraints which would impact the ability to be served by a gravity fed extension of the public sewer.

3.3 Water Service

a) All new development within the Lompa Ranch SPA shall be required to connect to municipal water service in a looped fashion acceptable to the City of Carson City.

b) The sizing of water lines is to be sufficient to accommodate ultimate buildout with a trunk line running in Railroad Drive.

c) All new development shall be required to pay applicable water connection fees and demonstrate that adequate water supply is available to serve the project and dedicated for use.

d) Separate irrigation meters will be employed in accordance with the guidelines present at the time of connection.

3.4 Storm Water Management

a) Drainage channels shall be designed to contain the existing off-site watershed discharges as well as the existing discharges from the SPA area.

b) Existing drainage patterns shall be maintained.

c) The linear park to the north of the property shall not be used for detention. However, a drainage easement may be requested to convey storm water flows to the linear ditch.

d) A comprehensive drainage impact analysis for the overall Blackstone Ranch SPA shall be reviewed and approved with the final map and/or permit request. The analysis shall provide estimates of project impacts at buildout along with required upgrades, improvements, etc. as well as with triggers for when these improvements are required.

e) Prior to the recordation of the final map, a Conditional Letter of Map Revision (CLOMR) must be approved with design recommendations for the channel to accommodate one-hundred-year peak flows.

f) Low Impact Development (LID) practices and Best Management Practices (BMP) shall be implemented to identify storm water mitigation measures intended to control erosion and storm water pollution as close to the source as possible. Potential sources of pollution shall be infiltrated, evapotranspiration, captured and used, and/or treated through LID measures to mitigate adverse impact to downstream and adjacent properties.

g) The northern extension of Railroad Drive across the ditch/linear park shall be designed in such a way to avoid flooding from storm water to the satisfaction of the City of Carson City as part of the final map design.

h) A wetland delineation is currently planned for Spring of 2018. The completion deadline is June 30, 2018. No development shall occur within the Blackstone Ranch SPA until the wetland delineation has been completed.

3.5 Utility Service

a) All utility services within the Blackstone Ranch SPA shall be undergrounded. Overhead power lines shall be prohibited.

b) Plans for electrical, natural gas, telephone, and cable service shall be reviewed and approved by the applicable purveyor (i.e. NV Energy, Southwest Gas, ATT, etc) prior to the issuance of a building permit.

3.6 Roadways

a) All roadways within the Blackstone Ranch SPA shall comply with the standards and requirements included within the Carson City Municipal Code.

b) Railroad Street will be extended as a collector street to the northern boundary of the Linear Park. All development plans, including construction plan will reflect this improvement and the road will be constructed at the time of site improvement. Consistent with the Lompa Ranch SPA the intent of the collector street is to connect Railroad Street to 5th Street.

c) An additional point of access that does not rely on Railroad Street must be improved in advance of any final subdivision map approval with a use anticipated to generate more than 39 trips per day. Provided the intersection of Saliman and Railroad meets the City standards of Level of Service (LOS), the additional point of access may provide for emergency access only.

3.7 Traffic Impacts

a) A comprehensive traffic impact analysis for the overall Blackstone Ranch SPA shall be reviewed and approved with the tentative map. The analysis shall provide estimates of the project impacts at buildout along with required upgrades, improvements, etc. along with triggers for when these improvements are required. This traffic study shall focus on vehicular access management to and from the proposed Blackstone Ranch SPA community and discuss the the location of the north/south collector connection and the location and provision of the project's local road network along with potential improvements in the vicinity of the project.

b) Updates to the master traffic impact analysis shall be provided for any project generating more than 80 peak hour trips to determine if roadway upgrades/improvements are triggered.

3.8 Schools

The following standards have been developed in conjunction with the Carson City School District:

a) All residential development within the Blackstone Ranch SPA shall be required to provide estimated student enrollment projections to the Carson City School District for review.

3.9 Phasing

The Blackstone Ranch will be developed in one phase, with all improvements, infrastructure, and construction being done together.

RECEIVED
MAY 11 2018
CARSON CITY
PLANNING DIVISION

Carson City Planning Division
108 E. Proctor Street• Carson City NV 89701
Phone: (775) 887-2180 • E-mail: planning@carson.org

FOR OFFICE USE ONLY:

CCMC 18.02.070

MASTER PLAN AMENDMENT

FILE # MPA - 17 - 185

FEE*: $3,050.00 + noticing fee
*Due after application is deemed complete by staff

☐ SUBMITTAL PACKET – 4 Complete Packets (1 Unbound Original and 3 copies) including:
- ☑ Application Form
- ☑ Written Project Description
- ☐ Site Plan - N/A
- ☑ Master Plan Amendment Findings
- ☑ Applicant's Acknowledgment Statement
- ☑ Master Plan Policy Checklist
- ☑ Documentation of Taxes Paid-to-Date
- ☑ Project Impact Reports (Engineering)

☑ CD or USB DRIVE with complete application in PDF

Application Reviewed and Received By:

_____

Submittal Deadline: See attached Planning Commission application submittal schedule. Master Plan Amendment applications are only accepted four times per year and must be submitted by the January, April, July and October deadline dates.

Note: Submittals must be of sufficient clarity and detail for all departments to adequately review the request. Additional information may be required.

APPLICANT	PHONE #
Blackstone Development/Josh Myers	520-400-4845

MAILING ADDRESS, CITY, STATE, ZIP
439 W Plumb Lane, Reno NV 89509

EMAIL ADDRESS
jgm@blackstonedevelopmentgroup.com

PROPERTY OWNER	PHONE #
D&SL V LLC	

MAILING ADDRESS, CITY, STATE, ZIP
1840 E. 5th St., Carson City NV 89701

EMAIL ADDRESS

APPLICANT AGENT/REPRESENTATIVE	PHONE #
Rubicon Design Group/Michele Rambo, AICP	775-393-0035

MAILING ADDRESS, CITY, STATE, ZIP
1610 Montclair Ave, Suite B, Reno NV 89509

EMAIL ADDRESS
mrambo@rubicondesigngroup.com

Project's Assessor Parcel Number(s):	Street Address
010-051-44	26.89 acres at the east end of Railroad Street

Project's Master Plan Designation	Project's Current Zoning	Nearest Major Cross Street(s)
Medium Density Residential	Agriculture	Saliman Rd./Railroad St.

Briefly describe your proposed project and the amendment to the master plan that is being requested. In addition to the brief description below, provide additional pages to show a more detailed overview of your project and proposal.

Create a new Specific Plan Area (SPA) to establish densities, design standards, etc. pursuant to the general policies of the Lompa Ranch Specific Plan Area within the City of Carson City Master Plan.

PROPERTY OWNER'S AFFIDAVIT

I, Samuel A. Lompa Jr., being duly deposed, do hereby affirm that I am the record owner of the subject property, and that I have knowledge of, and I agree to, the filing of this application.

Signature: Samuel A. Lompa Jr. MEMBER — Address: 1840 E. 5th St. Carson City, NV 89701 — Date: 10/12/17

Use additional page(s) if necessary for other names.

STATE OF NEVADA)
COUNTY OF Ormsby)

On October 12, 2017, Samuel A. Lompa Jr., personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

Notary Public

REBECCA L. ALVAREZ
Notary Public
State of Nevada
Appt. No. 00-62987-2
My Appt. Expires Aug. 20, 2020

NOTE: If your project is located within the Historic District or airport area, it may need to be scheduled before the Historic Resources Commission or the Airport Authority in addition to being scheduled for review by the Planning Commission, Planning staff can help you make this determination.

Carson City Planning Division
108 E. Proctor Street· Carson City NV 89701
Phone: (775) 887-2180 • E-mail: planning@carson.org

FOR OFFICE USE ONLY:

ZONING MAP AMENDMENT

FILE # ZMA – 16 - 17-186

FEE: $2,450.00 + noticing fee

SUBMITTAL PACKET

- [x] Application Form
- [x] Written Project Description
- [ ] Site Plan - N/A
- [x] Proposal Questionnaire With Both Questions and Answers Given, Supporting Documentation
- [x] Applicant's Acknowledgment Statement
- [x] 6 Completed Application Packets (1 Original + 5 Copies)
- [x] Documentation of Taxes Paid-to-Date (1 copy)
- [x] Project Impact Reports (Engineering-4 copies)
- [x] CD containing application data (all to be submitted once application is deemed complete by staff)

Application Reviewed and Received By:

Submittal Deadline: See attached PC application submittal schedule.
Note: Submittals must be of sufficient clarity and detail such that all departments are able to determine if they can support the request. Additional information may be required.

APPLICANT	PHONE #
Blackstone Development/Josh Myers	520-400-4845

MAILING ADDRESS, CITY, STATE, ZIP: 439 W Plumb Lane, Reno NV 89509

EMAIL ADDRESS: jgm@blackstonedevelopmentgroup.com

PROPERTY OWNER	PHONE #
D&SL V LLC	

MAILING ADDRESS, CITY, STATE, ZIP: 1840 E. 5th St., Carson City NV 89701

EMAIL ADDRESS:

APPLICANT AGENT/REPRESENTATIVE	PHONE #
Rubicon Design Group/Michele Rambo	775-393-0035

MAILING ADDRESS, CITY, STATE, ZIP: 1610 Montclair Ave., Suite B, Reno NV 89509

EMAIL ADDRESS: mrambo@rubicondesigngroup.com

Project's Assessor Parcel Number(s)	Street Address	ZIP Code
010-051-44	26.89 acres at the east end of Railroad Street	

Project's Master Plan Designation	Project's Current Zoning	Nearest Major Cross Street(s)
Medium Density Residential	Agriculture	Saliman Rd./Railroad St.

Briefly describe the components of the proposed project: in accordance with Carson City Municipal Code (CCMC), Section 18.02.075. In addition to the brief description of your project and proposed use, provide additional page(s) to show a more detailed summary of your project and proposal.

A Zoning Map Amendment to rezone 26.89± acres from Agriculture (A) to SF-6.

PROPERTY OWNER'S AFFIDAVIT

I, Samuel A. Lompa Jr., being duly deposed, do hereby affirm that I am the record owner of the subject property, and that I have knowledge of, and I agree to, the filing of this application.

Samuel A. Lompa Jr. MEMBER — Signature

1840 E. 5th St. Carson City, NV 89701 — Address

10/12/17 — Date

Use additional page(s) if necessary for other names.

On October 12, 2017, Samuel A. Lompa Jr., personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

Notary Public

REBECCA L. ALVAREZ
Notary Public
State of Nevada
Appt. No. 00-62987-2
My Appt. Expires Aug. 20, 2020

Blackstone Ranch Master Plan Amendment and Zone Change Application

Prepared by:

RUBICON Design Group

October 19, 2017

BLACKSTONE RANCH

MASTER PLAN AMENDMENT AND ZONE CHANGE

Prepared for:

Blackstone Development Group

439 W. Plumb Lane

Reno, Nevada 89509

Prepared by:

Rubicon Design Group, LLC

1610 Montclair Avenue, Suite B

Reno, Nevada 89509

(775) 425-4800

October 19, 2017

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Carson City Zoning Map Amendment Application
Proof of Paid Taxes
Blackstone Ranch Specific Plan Design Guidelines
Transportation Impact Study
Drainage Study
CD of Application

Blackstone Ranch Master Plan Amendment and Zone Change

Introduction

This application includes the following requests:

- A **Master Plan Amendment** to create a new Specific Plan Area (SPA) to specifically establish land uses, densities, design standards, and other standards pursuant to the general policies of the Lompa Ranch Specific Plan Area within the City of Carson City Master Plan.

- A **Zoning Map Amendment** to rezone 26.89± acres from Agriculture (A) to SF-6.

Project Location

Blackstone Ranch (APN # 010-051-44) consists of 26.89± acres. The Blackstone Ranch Specific Plan Area is located west of Interstate 580, north of Fairview Drive, at the east end of Railroad Drive. Figure 1 (below) depicts the project location.

Figure 1 – Vicinity Map

Existing Conditions

Currently, the project site is vacant. The property is surrounded by more vacant land to the north, Interstate 580 to the east, a commercial/industrial building to the south, and single-family residential to the west. Figures 2 (below) and 3 (following page) depict the existing onsite conditions.

Looking east from the end of Railroad Street

Looking north from the end of Railroad Street

Figure 2 – Existing Conditions

Looking south from the end of Railroad Street

Looking west from Interstate 580

Figure 3 – Existing Conditions

Site History

The Lompa Ranch and Lompa family have a long history in Carson City. The Lompa's raised cattle and sheep on the Lompa Ranch dating back to the 1930's. The area around the ranch, especially the northern portion has changed dramatically over the last 10 years. The most notable change is the extension of Interstate 580 which essentially divided the ranch into two halves. Other significant changes that have occurred include the development of parcels abutting the subject parcels included with this application. This includes single family and commercial/industrial development. Also, the recent closure of the Nevada State Prison has a profound impact on overall land use trends and compatibility considerations within the area.

Although the Lompa Ranch has yet to be fully transformed like the surrounding area, its location central to east Carson City essentially make it an infill site. The property is convenient to all City services and facilities and is an ideal location for new well-planned and considerate development. In fact, the Carson City Master Plan recognizes this fact and is, in large part, why the City designated Lompa Ranch as a Specific Plan Area.

Request Summary

This application includes two separate land use requests; a Master Plan Amendment (MPA) and Zoning Map Amendment (ZMA). At this time, no specific project is being proposed. These applications simply establish the underlying land use for future development of the Blackstone Ranch. Individual projects will be reviewed under separate entitlement requests (i.e. tentative maps, Special Use Permits, etc.).

The Lompa Ranch is designated as a Specific Plan Area (SPA) in the Carson City Master Plan. As such, specific design standards and regulations are required for each project area. This includes a design standards handbook that addresses all aspects of future development ranging from land use, open space, trails, parks, architecture, site design, etc. Included with this MPA request is a separate design standards handbook that, upon adoption, will establish development standards to ensure that all new projects within Blackstone Ranch provide for a consistent design theme, incorporate parks and open space, create a sense of place, and provide for high quality development. Additionally, the standards are derived to promote goals and policies of the Carson City Master Plan, Open Space Plan, Unified Trails and Pathways Plan, and Parks and Recreation Master Plan.

Both the MPA and ZMA requests are addressed within this section.

- **Master Plan Amendment**

As noted previously, the Carson City Master Plan designates the Lompa Ranch as one of four Specific Plan Areas within Carson City. Specific Plan Areas (SPA's) were adopted for large tracts of undeveloped land within the municipality's borders. A SPA designation requires development proposals to be reviewed in a comprehensive manner, based on the policies adopted in the Master Plan. As explained in Chapter 8 of the Master Plan, these policies are not intended to be all encompassing. Instead, they provide a framework for an overall master plan for the project area. In the case of the Blackstone Ranch, a supplemental design handbook has been developed which includes a wide range of development standards that ensure a high-quality development, consistency with the adopted plans and policies, and higher level of project consideration during supplemental review processes (i.e. specific architecture and landscaping standards, etc.). These standards will ultimately be adopted as an element of the Master Plan and will govern all new projects proposed within Blackstone Ranch.

The Carson City Master Plan designates the overall Lompa Ranch for a variety of uses ranging from commercial to residential to employment centers. With development of a more detailed design approach and land plan, some modification to the existing zoning designations are proposed with this application. However, the overall changes are fairly minor when considering potential underlying zoning categories and allowed uses. Figure 4 (following page) depicts the existing Master Plan land use designations for the

Blackstone Ranch site.

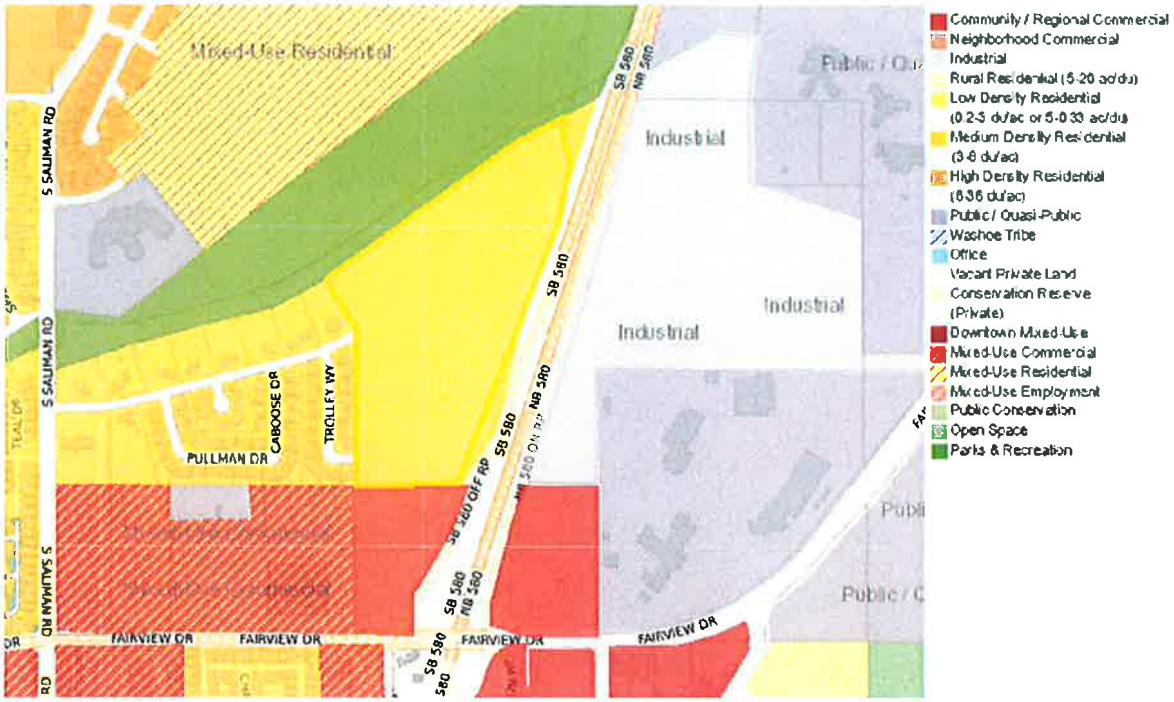


Figure 4 – Existing/Proposed Master Plan Designations

As Figure 4 depicts, this portion of Lompa Ranch has long been envisioned for a wide range of residential uses and densities. The current designation was adopted in 2006 and allow for a variety of single family and multi-family, at varying densities, up to 8 dwelling units per acre (when coupled with proper zoning). The designation Blackstone Ranch is not proposed to change and will remain designated the exact same as it is currently.

Consistent with the Lompa Ranch Specific Plan designation, a supplemental design standards handbook is included as attachment to this application for concurrent review with the MPA request. Upon adoption, the design standards will be become an element of the Master Plan that is applied to all future development within the Blackstone Ranch project boundaries.

The Master Plan includes 16 policies that are specific to the city's Lompa Ranch SPA and are addressed as part of this MPA request. These policies are listed below and are addressed in **bold face** type.

LR-SPA 1.1 - Specific Plan Area Requirement *- The Master Plan Land Use Map identifies a mix of uses for the property but is merely intended as a guide for future development of the property. Prior to any development occurring on the property, a new Specific Plan Area (SPA) must be approved to more specifically establish land uses, densities, design standards, and other standards pursuant to the general policies of this SPA. The SPA shall modify the Land Use Map, as appropriate, to identify land use areas, parks, open space, drainage*

facilities, etc. Appropriate zoning of the property may be included as part of the SPA process.

The existing land use map, coupled with the design standards handbook included as an attachment, serve to address this policy. The design standards include specific requirements for development and the land uses proposed define allowable densities and intensities.

LR-SPA 1.2 – Mix of Land Uses *- The SPA encourages a mix of land uses, including a variety of residential densities, employment/office uses and commercial uses to serve the local neighborhood as well as the region. The incorporation of higher density housing within the mixed-use commercial area to compliment retail and employment uses is encouraged. The final SPA shall establish guidelines for the mix of uses desired within the Activity Center and the appropriate configuration (i.e. vertical or "stacked" mixed-use, or horizontal or "side-by-side" mixed-use) of uses within it.*

No change to the land use designation is proposed as part of this application. However, the plan still fulfills this policy by providing for a wide range of residential uses.

LR-SPA 1.3 – Development of Activity Center *- The Master Plan Land Use Map identifies an "Activity Center" in the vicinity of the freeway and Highway 50 East. In the Mixed-Use Commercial portion of the property, an Activity Center should be integrated into the surrounding neighborhood and should incorporate a mix of complementary uses (including residential), increased densities, clear pedestrian connectivity and other transit supportive features.*

This activity center has been addressed as part of the Lompa Ranch North Specific Plan previously approved by the City of Carson City. Blackstone Ranch complements this activity center by providing pedestrian connectivity and transit supportive features that will help residents more easily reach this activity center.

LR-SPA 1.4 – Mix of Housing Types *- A range of housing types shall be included in the SPA, including single-family detached, single-family attached, duplexes, multifamily residential units and housing included as part of the mixed- use development to meet varying functional and pricing needs. Single family neighborhoods shall provide a range of lot sizes.*

By using the existing land use designation, implements this policy providing for residential densities ranging from 3 dwelling units per acre to 8 dwelling units per acre. This provides for several single-family housing product types including single family detached, clustered houses, zero lot line products, age-restricted houses, etc.

LR-SPA 1.5 – Compatibility with Existing Neighborhoods *- Land use patterns and development intensity shall be designed to provide for compatibility with existing, surrounding neighborhoods, including consideration of lot sizes and development intensities adjacent to existing residential neighborhoods.*

No change in the existing land use designation is proposed as part of this application. The existing Medium Density Residential designation directly complements existing neighborhoods to the west on and around

Railroad Street and provides neighborhoods that are linked to areas amenities such as the high school, church, and commercial centers through a system of sidewalks, paths, and trails. The proposed design standards further reinforce this concept.

LR-SPA 2.1 – Roadway Linkages *- The general vehicular circulation network shall be established with the final SPA to connect neighborhood within the SPA and surrounding neighborhood and shall include, at a minimum:*

- *a north-south collector between Highway 50 East and Fifth Street;*
- *connection of the north-south collector to Robinson Street;*
- *a collector from Fifth Street to Railroad Street across the Linear Park; and*
- *other roadways and connections as required by a traffic study.*

As required in the City of Carson City Master Plan, Railroad Street will be extended into a collector street to the north within the proposed SPA as indicated in the overall Lompa Ranch Specific Plan Area map found in the Master Plan. However, full extension to Fifth Street is dependent upon cooperation and agreement from land owners outside of the SPA boundary. The Master Developer continues to pursue the necessary easements and the design standards make provision for this connection.

LR-SPA 2.2 – Traffic Study Requirement *- A traffic study shall be required for review with the final SPA. The traffic analysis shall meet the requirements of the Carson City Development Standards and shall be conducted for the buildout of the entire SPA.*

A traffic impact analysis has been completed by Traffic Works, LLC and is submitted as an attachment to this report. It is important to note that establishment of this SPA is simply the first-step in the overall long-term development of the Lompa Ranch. As such, it is difficult, if not impossible, to fully evaluate traffic patterns given the fact that precise unit counts, densities, and/or commercial square footages are yet to be established. Therefore, as part of the proposed standards, the traffic impact analysis will be updated with each new project in order to ensure that appropriate levels of service are maintained and that triggers for roadway improvements are in place.

LR-SPA 2.3 – Pedestrian and Bicycle Connections *- Pedestrian and bicycle connections shall be provided to link all internal neighborhoods to each other and all areas of the development to:*

- *any commercial, mixed use or employment areas with the SPA;*
- *the Highway 50 East multi-use path;*
- *the high school;*
- *Saliman Street;*
- *any internal trails, open space and parks provided as part of the SPA development.*

This policy has essentially been adopted as a development standard within the attached handbook. This is further reinforced with the additional standards proposed within Chapter 3 of the design standards which require connectivity between neighborhoods, pathways and trails consistent with the Unified Trails and Pathways Master Plan, etc. It is the intent of the Blackstone Ranch SPA design standards to unify the project through an interconnected community that is tied together by a hierarchy of sidewalks, trails, and

paths that connect residents to community features such as schools, shopping, and recreational opportunities in the surrounding area.

LR-SPA 3.1 – Floodplain and Drainage *- The existing floodplain shall be identified based on FEMA mapping with post-freeway drainage improvements for development of the final SPA. In order to develop the property, drainage improvements will be required to mitigate the 100-year floodplain on the property. This may also require amending the FEMA mapping through a letter map amendment process. Once the new floodplain is determined, designated land use intensities shall be developed outside this floodplain area.*

An overall storm water management plan shall be developed with the final SPA to ensure adequate drainage facilities to serve the entire SPA area.

A detailed wetlands delineation shall be provided with the final SPA identifying any areas that meet the Federal 404 definition of wetlands. Following wetland identification, designated land use intensities shall be developed outside the wetlands.

The Master Developer, Blackstone Development, along with a team of professional engineers and hydrology experts amended FEMA mapping for the site based on improvements that occurred with the I-580 extension, coupled with new improvements that will occur with the development of Lompa Ranch North. A Letter of Map Revision (LOMR) has been issued by FEMA indicating this change. Included as an attachment to this report is a detailed drainage study prepared by The Red LTD that directly addresses this policy.

LR-SPA 4.1 – Quality Design *- The final SPA shall promote a variety and visual interest in the design of new residential neighborhoods through the incorporation of varied lot sizes, building styles and colors, garage orientation and other features.*

The final SPA shall promote variety and visual interest in the design of new commercial centers through the incorporation of well-articulated building facades, clearly defined entrances and pedestrian connections, landscaping and other features.

A comprehensive design standards manual is included with this submittal and will be adopted as an element of the Carson City Master Plan. This handbook provides for specific requirements related to architecture, landscaping, fencing, lighting, etc. in order to promote a high-quality development that includes variation in housing types, aesthetically pleasing streetscapes, etc. along with a comprehensive open space plan that mimics long envisioned facilities adopted in the various approved plans published by the Parks and Recreation Department.

LR-SPA 5.1 – Provision of Park, Multi-Use Paths and Open Space Facilities *- Parks shall be provided commensurate with demand created by the SPA development consistent with the City's adopted Parks and Recreation Master Plan standards. Drainage and flood control areas may be used as part of the parks and multi-use trail system. Parks shall be connected to existing multi-use trail facilities. Parks, open space and multi-use path areas shall be generally depicted on the final SPA Land Use Plan.*

Open space, and linkages between recreational amenities/features is a key element in the overall design for the Blackstone Ranch SPA. This is further reinforced through the proposed design standards. Additionally, the design standards generally reflect the policies included in the various adopted Parks and Recreation plans such as the Open Space Plan and the Unified Trails and Pathways Master Plan. The applicant will continue to work with the Parks and Recreation Department throughout this review process.

LR-SPA 6.1 – Extension of Public Utilities *- Water, sewer, storm drainage, gas, electric, telephone and cable television utilities shall be extended to serve the entire SPA and shall be coordinated with the applicable providers to ensure such facilities can be provided for the proposed development.*

The proposed design standards call for the adequate provisions of infrastructure and utilities. In large part, this will be addressed with individual projects as the Blackstone Ranch develops over time.

LR-SPA 6.2 – Undergrounding of Utilities *- All utilities, including electric, shall be extended underground from their present locations to serve the development.*

All new utilities will be undergrounded within the Blackstone Ranch SPA. This is further reinforced with the adoption of the proposed design standards.

LR-SPA 6.3 – School Facilities *- The applicant shall work with the Carson City School District to establish adequate school sites and facilities, as necessary, to provide for adequate levels of service for the proposed development.*

Although actual student projections cannot be accurately made in the absence of specific projects, it is recognized that existing elementary schools (i.e. Fremont Elementary) are nearing capacity. All residential development within the Blackstone Ranch SPA shall be required to provide estimated student enrollment projections to the Carson City School District for review.

LR-SPA 7.1 – Adequate Public Safety Facilities *- Adequate police and fire protection needs to be established within the SPA. Police and fire protection at an urban level of service needs to be demonstrated. Any additional services or facilities necessary to provide this level of service should be established on a prorated basis to serve the entire SPA.*

Currently, the subject area is served by Fire Station # 1 on Stewart Street. It is widely known that fire resources are "stretched thin" but in the absence of a specific project, it is difficult to determine what needs, if any, the fire department will have. However, the design standards do call for the need for new equipment, staffing, etc. to be addressed with individual projects based on their impact to fire services.

The Blackstone Ranch SPA is already located within an urban service area that includes patrols by the Sheriff's Department and is within appropriate police response times.

LR-SPA 7.2 – Fire Station Location *- The applicant shall work with the Carson City Fire Department to identify potential fire station locations, including off-site locations in the vicinity, to adequately serve the proposed*

SPA development area.

As discussed above, demand for a new fire station has yet to be determined based on site specific projects. However, provision has been made for a fire station site central to the Lompa Ranch North SPA boundary previously approved by the City of Carson City. This additional fire station will also serve the Blackstone Ranch SPA once it is operational.

- **Zoning Map Amendment**

The second entitlement component of this application is a request for a Zoning Map Amendment (ZMA). The ZMA is intended to "mimic" the MPA request in that it establishes the base zoning districts that comply with the Master Plan designation in order to implement the overall Blackstone Ranch SPA.

Currently, the site is zoned Agriculture (A). The A designation is representative of the historic ranching activities that were occurring on the Lompa Ranch. Figure 5 (below) depicts the existing site zoning.

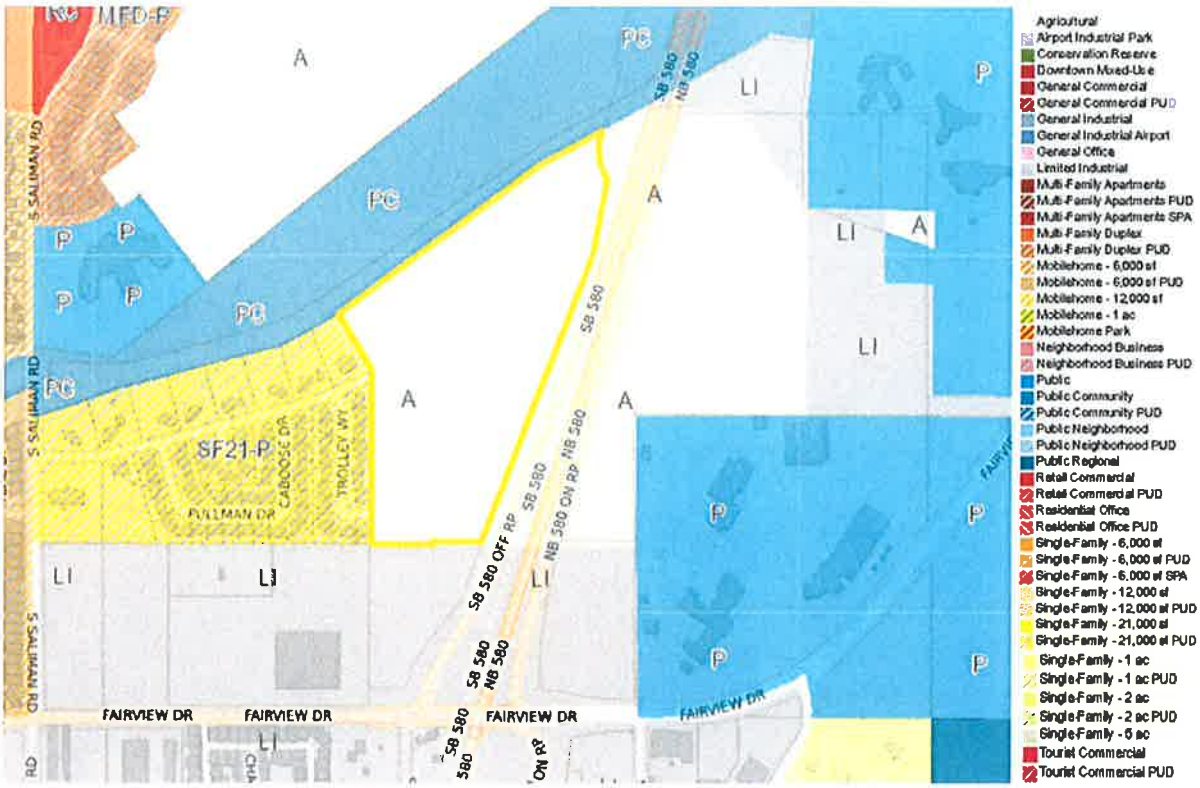


Figure 5 – Existing Zoning

The zoning proposed for Lompa Ranch is consistent with the existing Master Plan designation (Medium Density Residential) in both area and allowed intensity. The proposed zoning of SF-6 allows for 6,000 square

foot lots (smaller with clustering).

Figure 6 (below) depicts the proposed zoning for the Lompa Ranch SPA.

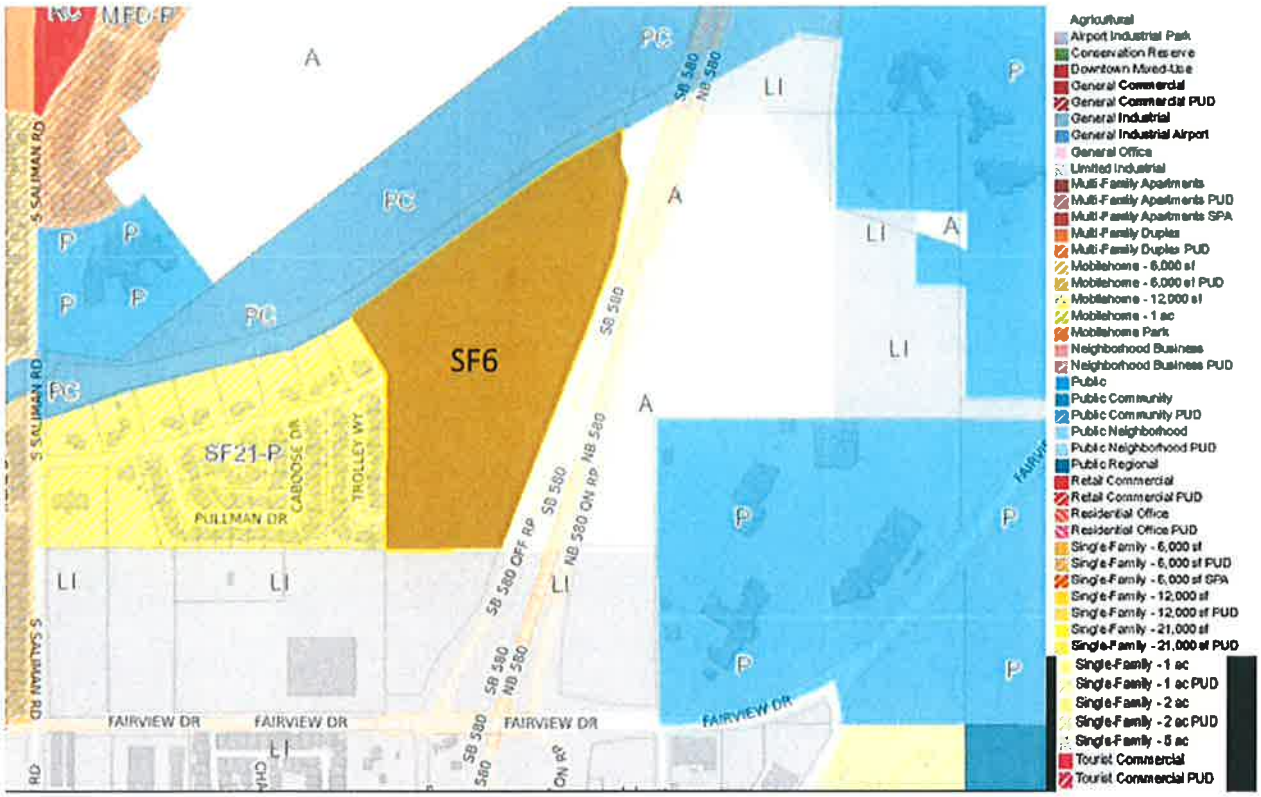


Figure 6 – Proposed Zoning

As noted previously, the zoning designations proposed serve to implement the existing Master Plan land use designation for this portion of the Lompa Ranch. Granting of the zoning does not allow for development by right. All new projects within Blackstone Ranch will be subject to the provisions of the Carson City Municipal Code, including requirements for subsequent entitlement review (i.e. tentative maps, Special Use Permits, etc.), as applicable.

Master Plan Policy Checklist

This section is taken directly from Carson City documents and forms part of both the ***Master Plan Amendment and Zoning Map Amendment*** application process. It also serves to address potential impacts generated by the MPA and ZMA requests. Responses to the checklist questions are included in this section and are printed in **bold** type.

PURPOSE

The purpose of a development checklist is to provide a list of questions that address whether a development proposal is in conformance with the goals and objectives of the 2006 Carson City Master Plan that are related to Master Plan Map Amendments and Zoning Map Amendments. This checklist is designed for developers, staff, and decision-makers and is intended to be used as a guide only.

Development Name: **Lompa Ranch Master Plan Amendment and Zone Change**
Reviewed By:
Date of Review:

DEVELOPMENT CHECKLIST

The following five themes are those themes that appear in the Carson City Master Plan and which reflect the community's vision at a broad policy level. Each theme looks at how a proposed Master Plan or Zoning Map Amendment can help achieve the goals of the Carson City Master Plan. A check mark indicates that the proposed amendment meets the applicable Master Plan policy. The Policy Number is indicated at the end of each policy statement summary. Refer to the Comprehensive Master Plan for complete policy language.

CHAPTER 3: A BALANCED LAND USE PATTERN

The Carson City Master Plan seeks to establish a balance of land uses within the community by providing employment opportunities, a diverse choice of housing, recreational opportunities, and retail services.

Is or does the proposed amendment:

- ✓ Discourage growth outside areas planned to be served by community water and wastewater facilities as identified in the Water and Wastewater Master Plans (1.1b)?

This application seeks to promote development on an infill site that is already served by infrastructure and so this application directly promotes this Master Plan policy. The Lompa Ranch has been identified for development at intensities greater than proposed within the Master Plan since 2006.

Promote infill and redevelopment in an identified priority area (1.2a)?

As one of the last remaining large undeveloped holdings in east Carson City, the project promotes infill development. However, it is not located in a priority area.

- ✓ At adjacent county boundaries, minimize potential land use conflicts with adjacent properties (1.5a)?

Not applicable. The site is not adjacent to a county boundary.

- ✓ Adjacent to State or Federal lands, ensure compatibility with planned adjacent uses and access (1.5b)

The site is not adjacent to any state lands. The closest state lands are the former Nevada State Prison,

which are proposed for cultural and recreational facilities and directly complement uses proposed within Blackstone Ranch.

- ✓ Located to be adequately served by city services including fire and sheriff services, and coordinated with the School District to ensure the adequate provision of schools (1.5d)?

The site is surrounded by existing development and is therefore already served by City services. Access to the site is safe, convenient, and logical given its location on Railroad Street, giving the site access to Saliman Avenue to the west and, eventually, to 5th Street to the north through the north/south connection. The site is within walking distance to Carson City High School, Fremont Elementary, and a short distance from Eagle Valley Middle School.

- ✓ Promote a citywide range of mixed-use, residential, commercial and employment uses at a variety of scales and intensities (2.1a)?

This project directly addresses this policy by providing an enhanced mix of housing options for the area and by providing rooftops to encourage commercial development in the area.

- ✓ In identified Mixed-Use areas, promote mixed-use development patterns as appropriate for the surrounding context consistent with the land use descriptions of the applicable Mixed-Use designation, and meet the intent of the Mixed-Use Evaluation Criteria (2.1b, 2.2b, 2.3b, Land Use Districts)?

The property involved in this application is not identified as being a Mixed-Use area. However, the development of Blackstone Ranch will contribute to other uses moving into the area to create a good blend of residential and commercial uses in this part of town.

- ✓ Discourage rezoning of properties that create "friction zones" between adjacent land uses, particularly industrial and residential uses (2.1d)?

The proposed SF-6 zoning does not create any friction zones between residential and industrial uses. The change from Agriculture provides for a land use mix that better addresses surrounding established neighborhoods than what is currently designated in the Master Plan.

- ✓ Encourage development outside the primary floodplain and away from geologic hazard areas (3.3d, e)?

The site is located away from known geologic hazards. Extension of the I-580 freeway resulted in significant improvements to flood concerns. This, coupled with onsite improvements and a recent LOMR from FEMA, the developer will ensure that new development is outside of the floodplain.

- ✓ Provide for zoning consistent with the Land Use designation (Land Use table descriptions)?

The current zoning (Agriculture) is not in conformance with the master plan designation (Medium Density Residential). This project will therefore remove an existing non-conformity by changing the zoning to SF-6, a medium density residential zoning which will reflect current Carson City land use standards.

✓ Meet the location criteria for the applicable Land Use designation (Land Use descriptions)?

No change to any land use designations are being proposed as part of this application. Therefore, all land uses conform to the adopted locational criteria.

✓ If located within an identified Specific Plan Area (SPA), meet the applicable policies of that SPA (Land Use Map, Chapter 8)?

The site is within the Lompa Ranch Specific Plan Area. The proposed project addresses the specific policies located in the Master Plan and includes a design standards handbook for the SPA area that will be adopted as an element of the Carson City Master Plan.

CHAPTER 4: EQUITABLE DISTRIBUTION OF RECREATIONAL OPPORTUNITIES

The Carson City Master Plan seeks to continue providing a diverse range of park and recreational opportunities to include facilities and programming for all ages and varying interests to serve both existing and future neighborhoods. Is or does the proposed amendment:

✓ Provide opportunities to expand parks and recreation opportunities (4.2a)?

The project provides specific standards within the design handbook to ensure this policy is met and adopts the applicable portions/requirements of the Parks and Recreation Master Plan, Open Space Plan, and the unified Trails and Pathways Master Plan. The design standards will be further coordinated with the Parks and Recreation Department during the MPA review process.

✓ Consistent with the Open Space Master Plan and Carson River Master Plan (4.3a)?

This project is consistent with the Open Space Master Plan as it enhances trail connectivity throughout the area and it provides for open space area. The site is not adjacent to the Carson River and includes standards derived from the Open Space Master Plan.

CHAPTER 5: ECONOMIC VITALITY

The Carson City Master Plan seeks to maintain its strong diversified economic base by promoting principles which focus on retaining and enhancing the strong employment base, include a broader range of retail services in targeted areas, and include the roles of technology, tourism, recreational amenities, and other economic strengths vital to a successful community.

Is or does the proposed amendment:

✓ Help maintain and enhance the primary job base (5.1)?

This amendment contributes to a healthy job base in that it enhances the development prospects for the site, bringing the potential of additional commercial development to the surrounding area.

- ✓ Encourage a citywide housing mix consistent with the labor force and non-labor force populations (5.1j)

This amendment directly addresses this policy by providing an enhanced mix of housing options to this area of town.

- ✓ Encourage the development of regional retail centers (5.2a)

The development of Blackstone Ranch will encourage the development of regional retail centers by providing an increased customer base to this area of town.

- ✓ Encourage reuse or redevelopment of underused retail spaces (5.2b)?

Although Blackstone Ranch does/will not include any retail within its boundaries, the additional customer base will encourage businesses to develop within the surrounding area. This will potentially include reusing or redeveloping underused retail spaces located in areas around Blackstone Ranch.

- ✓ Support heritage tourism activities, particularly those associated with historic resources, cultural institutions and the State Capitol (5.4a)?

This application is unlikely to either negatively or positively affect heritage tourism activities. However, it can provide for public access and trail linkages that may not otherwise be available without development of the site.

- ✓ Promote revitalization of the Downtown core (5.6a)?

By locating this project within the existing City boundary it could be argued that it encourages greater use of nearby retail, including downtown businesses. However, it will have little direct impact on specific revitalization efforts.

- ✓ Encourage the incorporation of additional housing in and around the Downtown (5.6c)?

This amendment will encourage people to live near downtown, as opposed to near or outside the existing municipal boundary.

CHAPTER 6: LIVABLE NEIGHBORHOODS AND ACTIVITY CENTERS

The Carson City Master Plan seeks to promote safe, attractive and diverse neighborhoods, compact mixed-use activity centers, and a vibrant, pedestrian-friendly Downtown. Is or does the proposed amendment:

- ✓ Promote compatibility with surrounding development for infill projects or adjacent to existing rural neighborhoods (6.2a, 9.3b 9.4a)?

The current Master Plan designation of Medium Density Residential is compatible with existing development in the area, a large portion of which is also designated as Medium Density Residential.

- ✓ If located in an identified Mixed-Use Activity Center or area, provide for the appropriate mix, size and density of land uses consistent with the Mixed-Use district policies (7.1a, b)?

The property involved in this application is not identified as being a Mixed-Use area. However, the development of Blackstone Ranch will contribute to other uses moving into the area to create a good blend of residential and commercial uses in this part of town.

- ✓ Encourage an appropriate mix of housing models and densities based upon the location, size and surrounding neighborhood context (9.1a)?

As noted, Blackstone Ranch is an improvement over the existing land use/zoning map in that it is more sensitive to surrounding development and provides a mix of housing types that will serve to greatly diversify the housing market in Carson City.

- ✓ Discourage "spot" rezoning of parcels within established rural neighborhoods that have not been identified as higher density on the Land Use Map or that are not contiguous with lots zoned for a comparable density (9.4b)?

As an infill site, this project does not impact rural neighborhoods. This is not spot zoning in that the Master Plan designation of Medium Density Residential is already present in the area. The proposed zoning change from Agriculture to SF-6 fits within this existing Master Plan designation. Lompa Ranch has been designated a Specific Plan Area by the City for many years, in anticipation of mapping amendments and, ultimately, development.

CHAPTER 7: A CONNECTED CITY

The Carson City Master Plan seeks promote a sense of community by linking its many neighborhoods, employment areas, activity centers, parks, recreational amenities and schools with an extensive system of interconnected roadways, multi-use pathways, bicycle facilities, and sidewalks.

Is or does the proposed amendment:

- ✓ Promote transit-supportive development patterns (e.g. mixed-use, pedestrian-oriented, higher density) along major travel corridors to facilitate future transit (11.2b)?

The proposed design handbook includes provisions to provide for pedestrian connectivity to other neighborhoods, parks, and other amenities. The site is located near Saliman Road and is close to existing transit and local services.

- ✓ Promote enhanced roadway connections and networks consistent with the Transportation Master Plan (11.2c)?

This project will contribute to enhanced demand for public transit services by locating residents close to transit lines. Furthermore, the design handbook (to be adopted in the Master Plan) makes provision for a north/south connector from the east end of Railroad Street north to 5th Street, with ultimate connection to Highway 50 (with the cooperation of adjoining property owners to the north).

- ✓ Provide for appropriate pathways through the development and to surrounding lands, including parks and public lands, consistent with the Unified Pathways Master Plan and the proposed use and density (12.1a, c)?

The project includes the adoption of standards that serve to implement the Unified Pathways Master Plan, as detailed in Chapter 3 of the attached design standards handbook.

Zoning Map Amendment Application Questionnaire

The Carson City Municipal Code establishes that the following conditions and standards must be met when considering a zoning map amendment. Each is addressed in **bold face** type.

1. That the proposed amendment is in substantial compliance with and supports the goals and policies of the Master Plan.

    A. In reviewing the attached Carson City Master Plan Policy Checklist, determine which Policies are applicable to the proposal. Explain what features of the proposed project support your selection of Goals and Policies concerning land use and related policies for the neighborhood where the subject project is located.

This issue is well documented in both the Zoning Map Amendment Findings and in the Master Plan Policy Checklist that are both included with this application. In short, the proposed amendment supports multiple goals and policies including: compatibility with surrounding development; enhancing the mix of housing choices; encouraging infill development; locating development within the existing City service area; and locating development near existing transportation routes.

2. That the proposed amendment will provide for land uses compatible with existing adjacent land uses and will not have detrimental impacts to other properties in the vicinity.

    A. Describe the land uses and zoning adjoining your property (for example: North: two houses, Single-Family One Acre zoning; East: restaurant, Retail Commercial zoning, etc.), and how your zoning will be compatible with those uses and not cause detrimental impacts.

This item is also addressed in the Zoning Map Amendment Findings located later within this report. This project is compatible with existing development in that it primarily seeks to locate residential uses

adjacent to existing residential development. Drainage infrastructure will be improved with development of the Blackstone Ranch.

The project site has residential uses to the west. This is an area where compatibility with existing development will be improved by removing the Agricultural designation from this area and replacing it with residential. To the east is a public facility (sewer treatment plant), a freeway, and commercial development.

To the south is Fairview Drive with a mix of commercial and neighborhood retail. To the north is more of the Lompa Ranch SPA that will eventually be developed with multi- and single-family housing, along with the potential for commercial development. The project seeks to directly match this development pattern by adding single family designations next to the existing single family sites and preserving the overall character of the area.

B. Describe land use and zoning changes in the general vicinity which have occurred in the previous five-year period.

The I-580 freeway extension and the closure of the Nevada State Prison have fundamentally altered the character of the area, along with new commercial growth to the north. This coupled with area-wide demand for housing is significant. Carson City is experiencing a need for both more housing and a greater variety of housing to meet current and projected demands. The push for more housing is simply a function of economic growth throughout the area. It makes sense for the community to plan ahead to meet this demand and this project is an attempt to allow for housing on a site that is within the City boundary and is close to existing transportation facilities.

The demand for a variety of housing choices is due to both young families waiting several years prior to purchasing a house and also to retirement-age people wanting to downsize from large lots and large houses. Both of these trends are encouraging the development of quality, small lot developments. This project is a direct response to this demand.

3. That the proposed amendment will not negatively impact existing or planned public services or facilities and will not adversely impact the public health, safety and welfare.

The proposed project will have a positive impact on public health, safety and welfare. It includes space for public uses trails. Proposed uses are complementary to existing uses, such as the surrounding residential development.

4. That sufficient consideration has been exercised by the applicant in adapting the project to existing improvements in the area. Be sure to indicate the source of the information that you are providing (private engineer, development engineering, title report, or other sources). Describe how your proposed Zoning Map Amendment will not adversely impact drainage, sewer, water, traffic, schools, emergency services, roadways and other city services.

A. Is drainage adequate in the area to support the density that may occur with the rezoning? How will drainage be accommodated? How have you arrived at this conclusion?

This application includes a drainage study completed by a licensed engineer. This project has also been discussed with Carson City staff in order to benefit from their specific experience. A comprehensive project in this area will allow for drainage issues (and all other engineering elements) to be designed in a coordinated manner that accounts for full buildout of the site.

Storm water features will be provided, sufficient to ensure that impacts are not imposed on other properties. Please see the included engineering materials for a comprehensive depiction of drainage and other infrastructure improvements.

B. Are the water supplies in the area of your project adequate to meet your needs without degrading supply and quality to others? Is there adequate water pressure? Are the lines in need of replacement? Talk to the Utilities Department for the required information.

Provisions for water service requirements are included in the design standards that will be adopted as part of the Carson City Master Plan and will apply to all new development within Blackstone Ranch. All new development will be required to meet the provisions of the Carson City Municipal Code, including review of water supply and system design.

C. Are roadways sufficient in the area to serve the density that may occur from the rezoning? How have you arrived at this conclusion?

The area is accessible to Saliman Road via Railroad Street and potentially 5th Street via the future north/south collector (subject to cooperation from other property owners), both of which are arterial roadways. The site is also adjacent to the freeway and accessible to Interstate 580 via Fairway Drive to the south. Therefore, the project area is ideally served by existing major roadways. It will not be necessary for the City to construct or maintain new arterial roadways to serve this development. Included in this application is a traffic study performed by a licensed engineer.

D. Will the school district be able to serve the student population that may occur from the rezoning? How have you arrived at this conclusion?

As included with the design handbook to be adopted as part of this project, all residential development within the Blackstone Ranch SPA shall be required to provide estimated student enrollment projections to the Carson City School District for review. In addition, the Master Developer of the Blackstone Ranch SPA shall be required to participate in any supplemental programs associated with the Carson City School District as approved within the Lompa Ranch North Development Agreement.

E. Are adequate means of access available for emergency vehicles to serve the site? What is the approximate response time for emergency vehicles? If your application is approved to rezone the property, will additional means of access be required for increased density? Or

will existing access ways be adequate? How have you arrived at this conclusion?

Access already exists to the site and it is already served by emergency services. Carson City Fire Station #1 is less than one mile of driving distance away. The site is bounded by major streets including Saliman Road and Fairway Drive. Railroad Street leads directly onto the site. The site is mainly flat and therefore no topographical barriers exist. New internal streets serving the project area will be sized in coordination with City standards, including emergency access needs.

Master Plan Amendment Findings

In order to complete a Master Plan Amendment, the applicant must make a finding of fact of a), b) and d), and c) if applicable, of the following:

a) Consistency with Master Plan. 1) The proposed amendment is in substantial compliance with the goals, policies and action programs of the Master Plan. Provide written documentation of compliance with the Master Plan Policy Checklist.

The Master Plan Policy Checklist is included in this application and fully addresses this item. In short, the proposed project furthers Carson City's Master Plan goals by providing a Specific Plan with defined development parameters for Blackstone Ranch. This area is currently non-conforming in that the agricultural zoning does not align with the residential designation on the site. This application will provide for conforming master plan and zoning designations across the site. Additionally, the proposed change will encourage infill development (MP Policy 1.1b; 1.2a) and enhance the mix of housing options (MP Policy 2.2a; 2.2b).

b) Compatible Land Uses. 1) The proposed amendment will provide for land uses compatible with existing adjacent land uses, and will not adversely impact the public health, safety or welfare.

The proposed amendment compatibility with existing development patterns in surrounding neighborhoods both on Railroad Street and across Saliman Road to the west. This will ensure for compatibility with established neighborhoods and is more complementary from a land use perspective than the existing Agricultural designation. The design standards included with this application will be adopted as an element of the Master Plan and include numerous provisions to protect the public's health, safety, and welfare.

c) Response to Change Conditions. 1) The proposed amendment addresses changed conditions that have occurred since the plan was adopted by the Board of Supervisors and the requested amendment represents a more desirable utilization of land.

As noted previously, the I-580 extension and closure of the prison have resulted in substantial changes to the character of the area. Also, the region is in need of both an increased housing supply and a more diverse mix of housing. This proposed amendment furthers both of these goals. Employment growth in the region suggests the need for additional residential area. Economic and demographic trends support a

greater mix of housing types.

An additional change is the increased appeal of infill development. Until recently, many cities, land developers, and consumers did not fully appreciate the value of infill sites. Extending development into outlying areas was appealing to many, despite the additional infrastructure demands and lengthy vehicle trip requirements. Now, cities are encouraging development within existing boundaries and consumers are appreciating housing options that are close to schools, retail centers, and jobs. This project is in line with this infill movement.

d) Desired Pattern of Growth. 1) The proposed amendment will promote the desired pattern for the orderly physical growth of the city and guides development of the city based on the projected population growth with the least amount of natural resource impairment and the efficient expenditure of funds for public services.

This site is part of one of the last large infill sites in Carson City. As such, it represents the most efficient possible use of existing infrastructure and public services. The site is fully surrounded by development, including roadways, utilities, and city services. The site has been master planned for development for many years, including residential and commercial components. This amendment is therefore a refinement of the City's long-term vision for the property by providing a mix of housing opportunities combined with open space and trails.

Zoning Map Amendment Findings

Like the previous MPA findings, ZMA findings are listed below and addressed in **bold face** type.

Per CCMC 18.02.075, the commission, in forwarding a recommendation to the board for approval of a zoning map amendment or zoning code amendment shall make the following findings of fact:

(1) That the proposed amendment is in substantial compliance with and supports the goals and policies of the master plan.

As documented in the Master Plan Amendment elements of this application, the proposed zoning amendment furthers the Carson City Master Plan by applying Specific Plan development standards to an area that has long been identified as a Specific Plan site in the Carson City Code.

The proposed zoning is sensitive to and compatible with surrounding development and zoning categories and furthers the City's Master Plan goals by eliminating potential 'friction zones' between land uses.

(2) That the proposed amendment will provide for land uses compatible with existing adjacent land uses and will not have detrimental impacts to other properties in the vicinity,

The zoning proposed directly complements existing established uses and neighborhoods and ensures for new development that is compatible with and sensitive to existing neighborhoods. It also serves to implement the long-time vision of the Master Plan related to Lompa Ranch as well as plans and policies adopted by the Parks and Recreation Department. Additionally, the project will result in fully engineered and managed drainage infrastructure that will help control floodwater, thereby benefitting surrounding properties.

(3) That the proposed amendment will not negatively impact existing or planned public services or facilities and will not adversely impact the public health, safety and welfare.

The proposed project includes space for public uses, including trails. The project will therefore have a positive impact on public welfare. No proposed uses are detrimental to public health or safety. It could be argued that this infill project located close to existing services and development, may increase public health and welfare by encouraging pedestrian activity.

ACKNOWLEDGMENT OF APPLICANT

I certify that the foregoing statements are true and correct to the best of my knowledge and belief.

Michele Rambo	Michele Rambo	10/19/17
Signature of Applicant	Print Name	Date

MPA - 17 - 185

ZMA - 17 - 186

TRANSPORTATION IMPACT STUDY

FOR

Blackstone Ranch

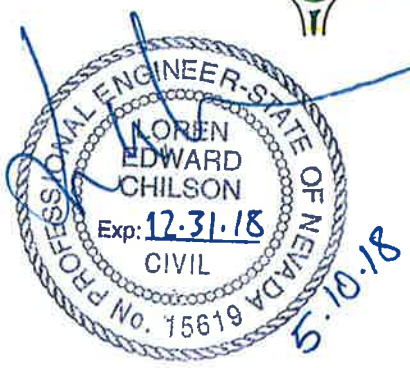
May 10, 2018

PREPARED FOR:

Blackstone Development Group, Inc.

PREPARED BY:

TRAFFIC WORKS LLC



TRAFFIC WORKS, LLC
5482 Longley Ln, Suite B, Reno, NV 89511
775.322.4300
www.Traffic-Works.com

YOUR QUESTIONS ANSWERED QUICKLY

Why did you perform this study?

This Transportation Impact Study evaluates the potential impacts on travel associated with construction of the Blackstone Ranch Development. This study of potential impacts was undertaken for planning purposes and to assist in determining what traffic controls or other multi-modal transportation mitigations may be needed to reduce potential impacts, if any are found.

What does the project consist of?

The proposed project consists of up to 112 single-family housing units located at the east end of Railroad Drive.

How much traffic will the project generate?

The proposed project is anticipated to generate approximately 1,066 daily trips, 84 AM peak hour trips, and 112 PM peak hour trips.

Are there any transportation impacts?

All the study intersections are anticipated to operate at acceptable level of service conditions now and in 2025, with the addition of the project traffic, including Lompa Ranch West Build-Out traffic. There are no transportation impacts that require mitigation.

Are any improvements needed?

It is recommend that the proposed project construct a connection to the multi-use trail north of the project site to provide quality walking and cycling connection to Fremont Elementary School.

LIST OF FIGURES

LIST OF APPENDICES

INTRODUCTION

This report presents the findings of a Transportation Impact Study completed to assess the potential transportation impacts on local intersections associated with the construction of the Blackstone Ranch Development. This Transportation Impact Study has been prepared to document existing traffic conditions, quantify traffic volumes generated by the proposed project, identify potential transportation impacts, document findings, and make recommendations to mitigate impacts, if any are found.

The project site is currently undeveloped and the project consists of up to 112 Single-Family Housing units.

Study Area and Evaluated Scenarios

The proposed project is located at the east end of Railroad Drive in Carson City, NV. The project location and the study intersections are shown in **Figure 1**. The site plan is provided in **Figure 2**. The following study intersections were analyzed following scope review with Carson City staff:

- Saliman Road/5th Street
- Saliman Road/Railroad Drive
- Saliman Road/Fairview Drive

This study includes analysis of both the weekday AM and PM peak hours as these are the periods of time in which peak traffic is generated by the project and the time periods when project impacts would most likely be found. The evaluated development scenarios are:

- Existing Conditions (No Project)
- 2025 Background Conditions (With Lompa Ranch West Build-Out traffic included)
- 2025 Background Plus Project Conditions (With Lompa Ranch West Build-Out traffic included)

Analysis Methodology

Level of service (LOS) is a term commonly used by transportation practitioners to measure and describe the operational characteristics of intersections, roadway segments, and other facilities. This term equates seconds of delay per vehicle at intersections to letter grades "A" through "F" with "A" representing optimum conditions and "F" representing breakdown or over capacity flows. The LOS for a Two-Way STOP Control (TWSC) intersection is defined by the worst approach/movement delay.

The complete methodology is established in the Highway Capacity Manual (HCM), 2010, published by the Transportation Research Board. **Table 1** presents the delay thresholds for each level of service grade at un-signalized and signalized intersections.

Level of service calculations were performed for the study intersections using the Vistro 5.0 software package with analysis and results reported in accordance with the 2010 HCM methodology.

Table 1: Level of Service Definition for Intersections

Level of Service	Brief Description	Un-signalized Intersections (average delay/vehicle in seconds)	Signalized Intersections (average delay/vehicle in seconds)
A	Free flow conditions.	< 10	< 10
B	Stable conditions with some affect from other vehicles.	10 to 15	10 to 20
C	Stable conditions with significant affect from other vehicles.	15 to 25	20 to 35
D	High density traffic conditions still with stable flow.	25 to 35	35 to 55
E	At or near capacity flows.	35 to 50	55 to 80
F	Over capacity conditions.	> 50	> 80

Source: Highway Capacity Manual (2010), Chapters 16 and 17

Level of Service Policy

The Carson City Code of Ordinances Section 12.13 establishes Level of Service (LOS) "D" as the citywide level of service standard.

EXISTING TRANSPORTATION FACILITIES

Roadway Facilities

A brief description of the key roadways in the study area is provided below.

Saliman Road is a five-lane roadway with two travel lanes in each direction and a center-turn-lane that runs generally in the north-south direction. The posted speed limit is 35 miles per hour (mph) in the project area. There is an existing school zone on Saliman Road with 15 mph speed requirement, when flashing, from north of Railroad Drive to Little Lane.

Fairview Drive is a five-lane roadway with two travel lanes in each direction and a center-turn-lane that runs in the east-west direction. The posted speed limit is 35 miles per hour (mph) in the project area.

Railroad Drive is a two-lane residential street that provides access to an existing neighborhood and to the proposed project site. The prima facie or default citywide speed limit of 25 mph applies to Railroad Drive since it has no posted speed limit.

Alternate Travel Mode Facilities

Sidewalks are present on both the east and west sides of Saliman Road, the north and south sides of Fairview Drive, and the south side of Railroad Drive from Saliman Road to the project site. Marked bicycle lanes exist on both sides of Saliman Road.

EXISTING CONDITIONS

Traffic Volumes

Existing traffic volumes were determined by collecting turning movement counts during the AM and PM peak periods at the study intersections on an average mid-week day, with school in regular session. The existing peak hour intersection traffic volumes and existing lane configurations are shown on **Figure 3**, attached.

Level of Service

Level of service calculations were performed using the existing traffic volumes, existing lane configurations, and existing traffic controls. The results are presented in **Table 2** and the calculation sheets are provided in **Appendix A**, attached. As shown in **Table 2**, all the study intersections currently operate at acceptable level of service conditions during both the AM and PM peak hours.

Table 2: Existing Conditions Intersection Level of Service Summary

Intersection	Control	AM Peak		PM Peak	
		LOS	Avg Delay (sec)	LOS	Avg Delay (sec)
Saliman Rd/5th St	Signal	C	24.08	C	29.25
Saliman Rd/Railroad Dr	Side-Street STOP	B	10.42	A	9.92
Saliman Rd/Fairview Dr	Signal	C	24.90	C	24.85

2025 BACKGROUND CONDITIONS

Traffic Volumes

The 2025 horizon background traffic volumes were developed for this study to provide a baseline for assessing future potential impacts of the project. The future year 2025 was chosen for Background Conditions as the Lompa Ranch project is anticipated to take approximately 7 to 8 years to be fully built and occupied. Additionally, reasonably reliable traffic volume projections are available for the 2025 timeframe from the CAMPO regional travel demand model. Traffic growth rates were determined using the latest iteration of the Carson Area Metropolitan Planning Organization travel demand model outputs. The obtained growth rates were then applied to the existing AM and PM peak hour traffic volumes to forecast future intersection peak hour traffic volumes. The growth rates and factors are shown in **Table 3**.

2025 Background Condition traffic volumes were developed by adding the Lompa Ranch West Build-Out traffic to 2025 horizon baseline traffic volumes. Please refer to the "*TRANSPORTATION IMPACT STUDY for Lompa Ranch West Build-Out*" report dated March 9, 2017 for the complete methodology, trip generation, trip distribution, and trip assignment details.

Table 3: 2025 Horizon Growth Rates

Location -->	5th St	Saliman Rd	Saliman Rd	Saliman Rd	Railroad Dr	Fairview Dr	Fairview Dr
	E/O Saliman	N/O Railroad	S/O Railroad	S/O Fairview		E/O Saliman	W/O Saliman
2015 CAMPO Volume	6,700	3,300	3,500	7,400	1,000	23,100	18,700
2025 CAMPO Volume	10,400	5,600	5,800	8,200	1,100	22,000	19,600
Model Difference 2025-2015	3,700	2,300	2,300	800	100	-1,100	900
10 Years % Change	55%	70%	66%	11%	10%	-5%	5%
% per year	5.5%	7.0%	6.6%	1.1%	1.0%	-0.5%	0.5%
8 years growth factor (2017 to 2025)	**1.50**	**1.56**	**1.53**	**1.09**	**1.08**	**0.96**	**1.04**

The peak hour factors (PHF), lane configurations, and signal timing plans at the study intersections under 2025 Background Conditions were kept the same as existing conditions. The 2025 Background Conditions peak hour intersection traffic volumes are shown on **Figure 4**, attached.

Level of Service

Level of service calculations were performed using the 2025 Background Conditions traffic volumes, existing lane configurations, existing traffic controls, and optimized signal timings at the Saliman Road/5th Street intersection. The results are presented in **Table 4** and the calculation sheets are provided in **Appendix B**, attached. As shown in **Table 4**, all the study intersections are anticipated to operate at acceptable level of service conditions during both the AM and PM peak hours.

Table 4: 2025 Background Conditions Intersection Level of Service Summary

Intersection	Control	AM Peak		PM Peak	
		LOS	Avg Delay	LOS	Avg Delay
Saliman Rd/5th St	Signal	D	36.45	C	23.45
Saliman Rd/Railroad Dr	Side-Street STOP	B	12.43	B	11.71
Saliman Rd/Fairview Dr	Signal	C	23.60	C	26.91

PROJECT GENERATED TRAFFIC

Project Description

The Blackstone Ranch Development consists of up to 112 single-family housing units. The project location is shown in **Figure 1** and the site plan is provided in **Figure 2**.

Trip Generation

Trip generation rates for the proposed project were calculated using the *Trip Generation Manual, 9th Edition*, published by the Institute of Transportation Engineers.

Table 5 provides the Daily, AM Peak Hour, and PM Peak Hour trip generation calculations for the proposed project based on the ITE Trip Generation Manual. As shown in **Table 5**, the proposed project is anticipated to generate approximately 1,066 daily trips, 84 AM peak hour trips, and 112 PM peak hour trips.

Table 5: Daily Trip Generation Estimates

Land Use (ITE Code)	Quantity	Daily Trips			AM Peak Trips			PM Peak Trips		
		Total	In	Out	Total	In	Out	Total	In	Out
Single Family Housing (210)	112 Dwelling Units	1,066	533	533	84	21	63	112	71	41

Trip Distribution and Assignment

Traffic generated by the project was distributed to the road network based on the location of the project, major activity centers, and local roadway connections. ***Traffic flows would be split between Trolley Way/Jacques Way and Railroad Drive in order to reach Saliman Road. This analysis is conservative (worst case) in that it does not assume any roadway connection to the north.*** The following trip distribution percentages were used for distributing the project traffic:

- 5% to/from the south on Saliman Road south of Fairview Drive
- 30% to/from I-580 via Fairview Drive
- 35% to/from the west via Fairview Drive

- 5% to/from the north on Saliman Road north of 5th Street
- 5% to/from the east on 5th Street east of Saliman Road
- 20% to/from the west on 5th Street west of Saliman Road

Project generated trips were assigned to the adjacent roadway system based on the distribution outlined above. The project trip assignment is shown on **Figure 5**, attached.

2025 BACKGROUND PLUS PROJECT CONDITIONS

Traffic Volumes

"Background Plus Project" traffic volumes were developed by adding the Blackstone Ranch project generated trips (**Figure 5**) to the 2025 background traffic volumes (**Figure 4**) and are shown on **Figure 6**, attached. The "Background Plus Project" condition Peak Hour Factors (PHF) and travel patterns were assumed to remain the same as existing (and 2025 background) conditions.

Level of Service

Level of service calculations were performed using the 2025 Background Plus Project conditions traffic volumes. **Table 6** presents the level of service analysis summary for this scenario. Detailed calculation sheets are provided in **Appendix C**, attached.

Table 6: 2025 Background Plus Project Intersection Level of Service Summary

Intersection	Control	AM Peak		PM Peak	
		LOS	Avg Delay	LOS	Avg Delay
Saliman Rd/5th St	Signal	D	36.85	C	23.60
Saliman Rd/Railroad Dr	Side-Street STOP	B	14.58	B	14.29
Saliman Rd/Fairview Dr	Signal	C	23.40	C	27.18

As shown in **Table 6**, under the 2025 Background Plus Project conditions, all the study intersections are anticipated to operate at acceptable level of service conditions during both the AM and PM peak hours.

The Saliman Road/5th Street and Saliman Road/Fairview Drive intersections are anticipated to experience an insignificant increase in average delay of less than 0.5 seconds per vehicle with the addition of project traffic. The Saliman Road/Railroad Drive intersection is anticipated to experience an increase in average delay of less than 3 seconds per vehicle with the addition of project traffic and remain at LOS "B". Under 2025 Background Pus Project conditions, all the study intersections operate at the same LOS as 2025 Background Conditions (without project traffic).

RECOMMENDED IMPROVEMENTS

No traffic mitigations are proposed since the Level of Service analysis shows that all the study intersections are anticipated to operate at acceptable LOS conditions with the addition of project traffic. To provide quality multimodal facilities and pedestrian/bicycle connection to Fremont Elementary School, the project should construct a connection to the multiuse path on the north side of the project site.

CONCLUSIONS & RECOMMENDATIONS

The following is a list of our key findings and recommendations:

Proposed Project: The Blackstone Ranch Development consists of 112 Single Family Housing units.

Project Trips: The Blackstone Ranch Development is anticipated to generate approximately 1,066 daily trips, 84 AM peak hour trips, and 112 PM peak hour trips.

Existing and 2025 Background Level of Service: All the study intersections are anticipated to operate at acceptable level of service conditions during the existing and 2025 Background Conditions (2025 horizon baseline + Lompa Ranch West Build-Out).

2025 Background Plus Project Intersection Level of Service: All the study intersections are anticipated to operate at acceptable level of service conditions under the 2025 Background Plus Project scenario. With the addition of project traffic, the average delays are anticipated to increase by less than 3 seconds per vehicle during the peak hours and the intersections will remain at their current levels of service. The impacts of project traffic are considered not significant.

Recommendations: It is recommend that the proposed project construct a connection to the multi-use trail north of the project site to provide quality walking and cycling connection to Fremont Elementary School.

Mitigations: No traffic mitigations are needed as all the study intersections operate at acceptable LOS conditions with the addition of the project traffic.

TRAFFIC WORKS

NO SCALE

Figure 1
Blackstone Ranch
TRANSPORTATION IMPACT STUDY
Study Area

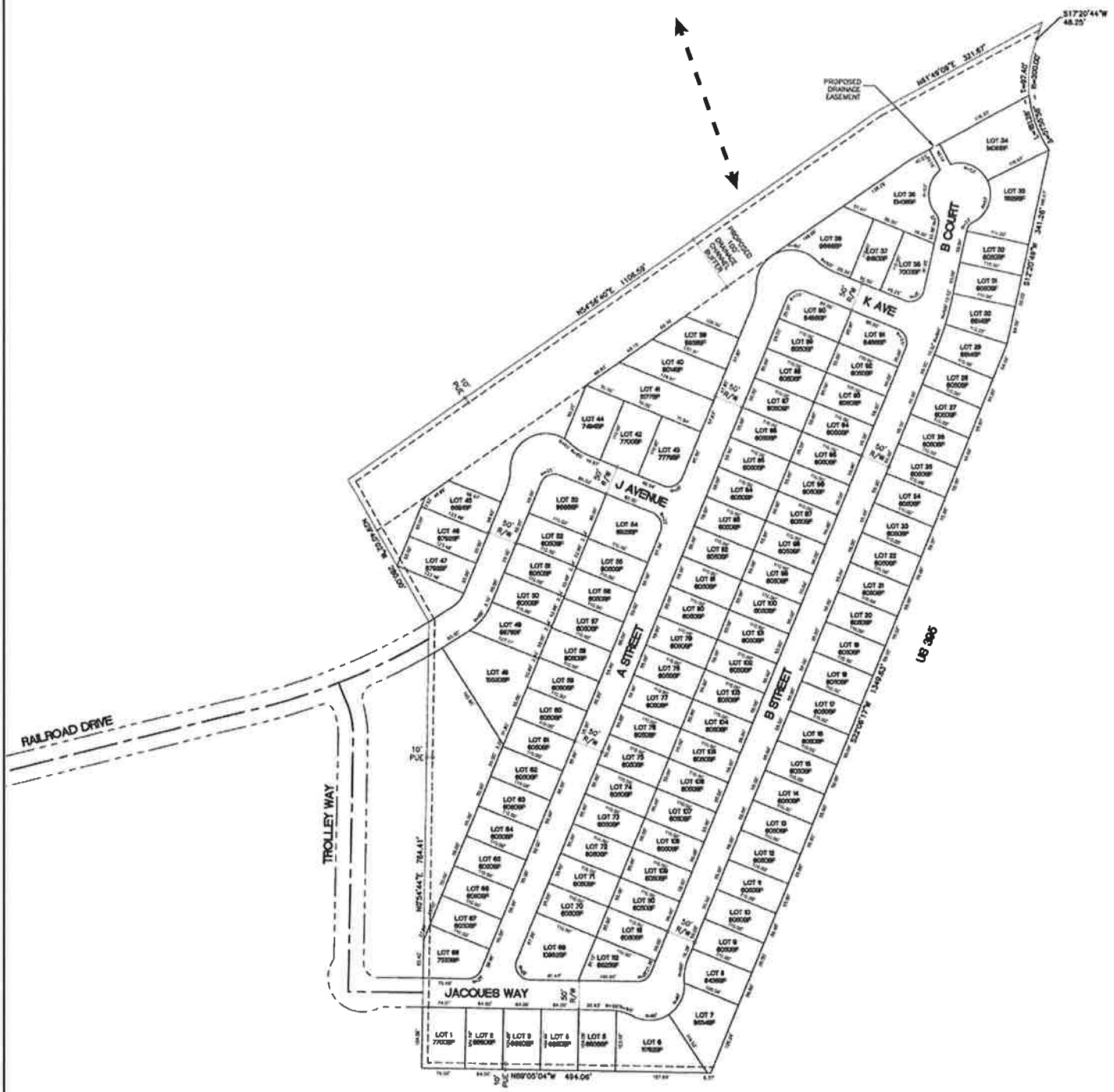


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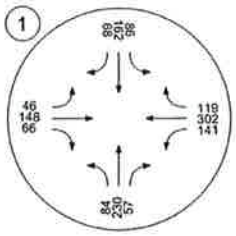
Figure 2
Blackstone Ranch
TRANSPORTATION IMPACT STUDY
Site Plan

A.M. PEAK HOUR

Saliman Rd / 5th St



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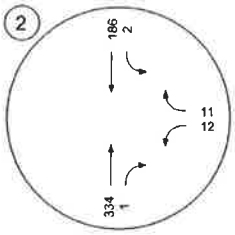

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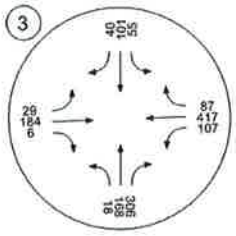
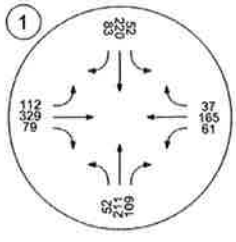


P.M. PEAK HOUR

Saliman Rd / 5th St



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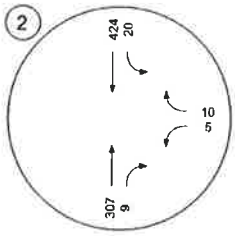

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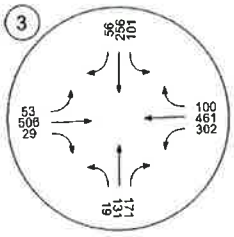

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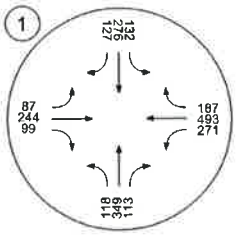
Figure 3
Blackstone Ranch
TRANSPORTATION IMPACT STUDY
Existing Traffic Volumes

A.M. PEAK HOUR

Saliman Rd / 5th St



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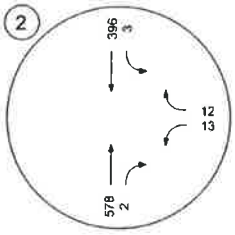

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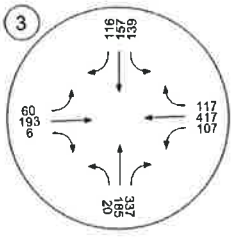

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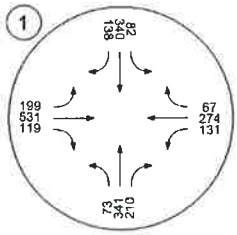
Saliman Rd / 5th St



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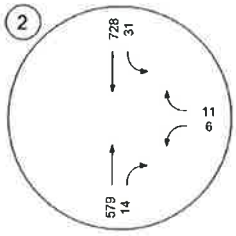

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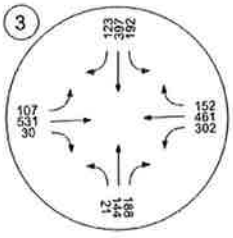

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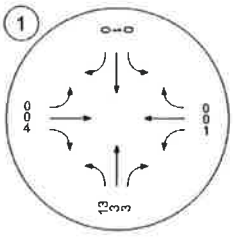
Figure 4
Blackstone Ranch
TRANSPORTATION IMPACT STUDY
2025 Background Conditions Traffic Volumes

A.M. PEAK HOUR

Saliman Rd / 5th St



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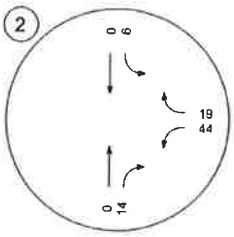
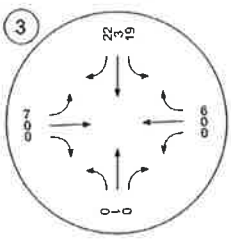


Saliman Rd / Fairview Dr



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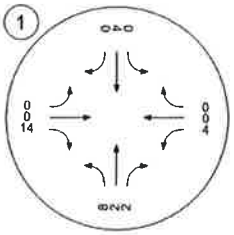
Saliman Rd / 5th St



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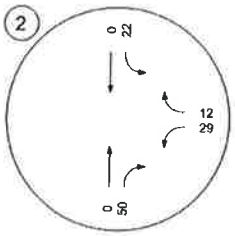
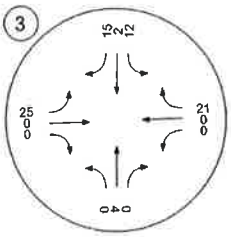


Saliman Rd / Fairview Dr



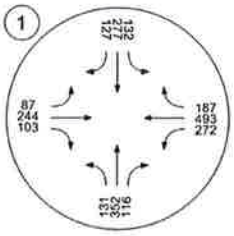
TRAFFIC WORKS LTD.

NO SCALE

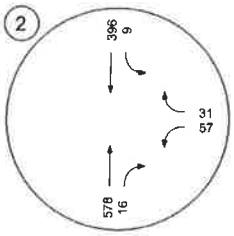
Figure 5
Blackstone Ranch
TRANSPORTATION IMPACT STUDY
Trip Assignment

A.M. PEAK HOUR

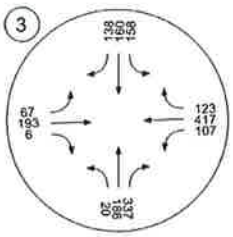
Saliman Rd / 5th St



Saliman Rd / Railroad Dr

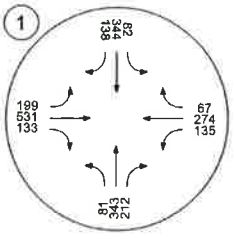


Saliman Rd / Fairview Dr

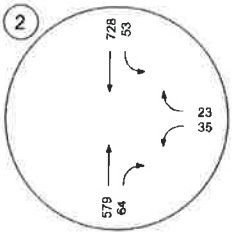


P.M. PEAK HOUR

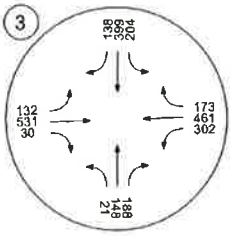
Saliman Rd / 5th St



Saliman Rd / Railroad Dr



Saliman Rd / Fairview Dr



TRAFFIC WORKS LLC

NO SCALE

Figure 6

Blackstone Ranch

TRANSPORTATION IMPACT STUDY

2025 Background Plus Project Traffic Volumes

Appendix A

Existing Conditions LOS Calculations

Intersection Level Of Service Report
Intersection 1: Saliman Rd/5th St

Control Type:	Signalized	Delay (sec / veh):	29.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.267

Intersection Setup

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	160.00	100.00	100.00	170.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Base Volume Input [veh/h]	52	211	109	52	220	83	112	329	79	61	165	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	211	109	52	220	83	112	329	79	61	165	37
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	58	30	14	60	23	31	90	22	17	45	10
Total Analysis Volume [veh/h]	57	232	120	57	242	91	123	362	87	67	181	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	2.3	2.3	0.0	2.4	2.3	0.0	0.0	2.2	0.0	0.0	2.3	0.0
Split [s]	18	47	0	18	47	0	0	55	0	0	55	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	13	0	0	18	0	0	17	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.4	3.3	0.0	0.0	3.2	0.0	0.0	3.3	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.30	5.30	5.20	5.20	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	3.30	0.00	3.30	3.30	3.20	3.20	3.30
g_i, Effective Green Time [s]	90	80	80	90	80	80	20	20	20
g / C, Green / Cycle	0.75	0.67	0.67	0.75	0.67	0.67	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.06	0.11	0.11	0.06	0.10	0.11	0.13	0.14	0.14
s, saturation flow rate [veh/h]	998	1683	1496	984	1683	1531	1683	1575	1630
c, Capacity [veh/h]	788	1122	997	775	1124	1022	277	260	267
d1, Uniform Delay [s]	4.10	7.48	7.51	4.12	7.38	7.41	48.30	48.82	48.56
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.18	0.31	0.37	0.04	0.29	0.33	5.60	8.43	6.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.07	0.16	0.17	0.07	0.15	0.16	0.81	0.87	0.83
d, Delay for Lane Group [s/veh]	4.28	7.79	7.88	4.16	7.67	7.74	53.90	57.25	55.14
Lane Group LOS	A	A	A	A	A	A	D	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	0.36	1.78	1.66	0.33	1.65	1.57	6.90	7.14	6.91
50th-Percentile Queue Length [ft]	9.12	44.55	41.62	8.36	41.32	39.21	172.49	178.62	172.82
95th-Percentile Queue Length [veh]	0.66	3.21	3.00	0.60	2.98	2.82	11.21	11.53	11.22
95th-Percentile Queue Length [ft]	16.42	80.20	74.91	15.05	74.38	70.58	280.18	288.22	280.62

Movement, Approach, & Intersection Results

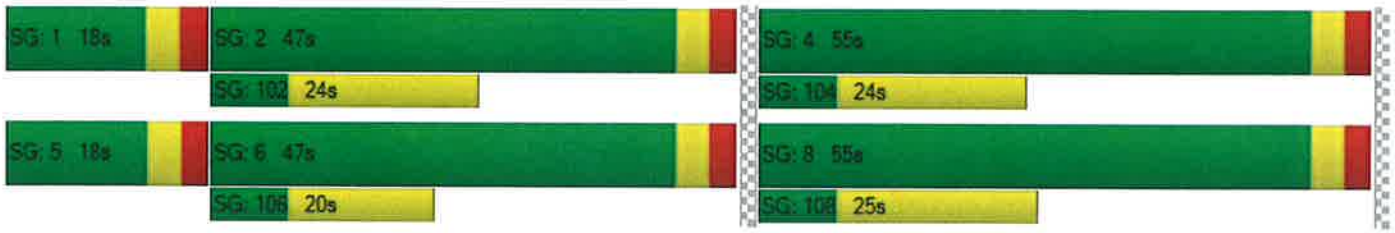
d_M, Delay for Movement [s/veh]	4.28	7.81	7.88	4.16	7.69	7.74	0.00	55.17	57.25	0.00	55.14	55.14
Movement LOS	A	A	A	A	A	A		E	E		E	E
d_A, Approach Delay [s/veh]	7.34			7.19			55.57			55.14		
Approach LOS	A			A			E			E		
d_I, Intersection Delay [s/veh]	29.25											
Intersection LOS	C											
Intersection V/C	0.267											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.458	2.443	2.390	2.386
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	695	695	830	828
d_b, Bicycle Delay [s]	25.55	25.55	20.53	20.59
l_b,int, Bicycle LOS Score for Intersection	1.897	1.881	1.930	1.926
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Rd/Railroad Dr

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Saliman Rd		Saliman Rd		Railroad Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Saliman Rd		Saliman Rd		Railroad Dr	
Base Volume Input [veh/h]	307	9	20	424	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	307	9	20	424	5	10
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	2	5	112	1	3
Total Analysis Volume [veh/h]	323	9	21	446	5	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.97	0.00	11.21	9.33
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.05	0.00	0.07	0.07
95th-Percentile Queue Length [ft]	0.00	0.00	1.30	0.00	1.64	1.64
d_A, Approach Delay [s/veh]	0.00		0.36		9.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.40					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Fairview Dr/Saliman Rd

Control Type:	Signalized	Delay (sec / veh):	24.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.477

Intersection Setup

Name	Saliman Rd			Saliman Rd			Fairview Dr			Fairview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	1	0	0	1	0	0
Pocket Length [ft]	70.00	100.00	110.00	100.00	100.00	170.00	120.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Fairview Dr			Fairview Dr		
Base Volume Input [veh/h]	19	131	171	101	256	56	53	506	29	302	461	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	131	171	101	256	56	53	506	29	302	461	100
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	37	48	28	72	16	15	142	8	85	129	28
Total Analysis Volume [veh/h]	21	147	192	113	288	63	60	569	33	339	518	112
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	13	35	0	11	43	0	12	44	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	44	34	34	44	37	37	48	36	36	48	40	40
g / C, Green / Cycle	0.44	0.34	0.34	0.44	0.37	0.37	0.48	0.36	0.36	0.48	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.02	0.09	0.13	0.09	0.17	0.04	0.07	0.18	0.18	0.37	0.19	0.19
s, saturation flow rate [veh/h]	1050	1696	1442	1216	1696	1442	834	1696	1664	922	1696	1593
c, Capacity [veh/h]	434	570	485	562	635	540	407	617	605	448	684	642
d1, Uniform Delay [s]	16.94	24.12	25.41	17.30	23.57	20.46	14.92	24.68	24.69	22.72	22.05	22.05
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.36	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.21	1.09	2.41	0.17	2.33	0.44	0.17	0.61	0.62	8.26	0.51	0.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.05	0.26	0.40	0.20	0.45	0.12	0.15	0.49	0.49	0.76	0.48	0.48
d, Delay for Lane Group [s/veh]	17.16	25.21	27.83	17.47	25.89	20.90	15.08	25.29	25.31	30.97	22.56	22.60
Lane Group LOS	B	C	C	B	C	C	B	C	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh]	0.30	2.67	3.77	1.58	5.43	1.02	0.73	5.58	5.49	5.95	5.61	5.27
50th-Percentile Queue Length [ft]	7.42	66.85	94.17	39.42	135.84	25.50	18.35	139.53	137.24	148.82	140.22	131.83
95th-Percentile Queue Length [veh]	0.53	4.81	6.78	2.84	9.26	1.84	1.32	9.46	9.33	9.95	9.49	9.04
95th-Percentile Queue Length [ft]	13.35	120.33	169.50	70.96	231.41	45.89	33.02	236.39	233.30	248.85	237.31	225.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.16	25.21	27.83	17.47	25.89	20.90	15.08	25.30	25.31	30.97	22.58	22.60
Movement LOS	B	C	C	B	C	C	B	C	C	C	C	C
d_A, Approach Delay [s/veh]	26.14			23.17			24.37			25.52		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	24.85											
Intersection LOS	C											
Intersection V/C	0.477											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	39.61	39.61	39.61	39.61
l_p,int, Pedestrian LOS Score for Intersection	2.591	2.493	2.563	2.721
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	560	620	780	800
d_b, Bicycle Delay [s]	25.92	23.81	18.61	18.00
l_b,int, Bicycle LOS Score for Intersection	2.154	2.325	2.106	2.359
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1: Saliman Rd/5th St

Control Type:	Signalized	Delay (sec / veh):	24.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.444

Intersection Setup

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	160.00	100.00	100.00	170.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Base Volume Input [veh/h]	84	230	57	86	162	68	46	148	66	141	302	119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	84	230	57	86	162	68	46	148	66	141	302	119
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	67	17	25	47	20	13	43	19	41	88	35
Total Analysis Volume [veh/h]	98	267	66	100	188	79	53	172	77	164	351	138
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	2.3	2.3	0.0	2.4	2.3	0.0	0.0	2.2	0.0	0.0	2.3	0.0
Split [s]	11	30	0	13	32	0	0	57	0	0	57	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	13	0	0	18	0	0	17	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.4	3.3	0.0	0.0	3.2	0.0	0.0	3.3	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.30	5.30	5.20	5.20	5.20	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	3.30	0.00	3.30	3.30	0.00	3.20	3.20	3.30	3.30
g_i, Effective Green Time [s]	51	41	41	51	41	41	38	38	38	38	38
g / C, Green / Cycle	0.51	0.41	0.41	0.51	0.41	0.41	0.38	0.38	0.38	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.09	0.10	0.10	0.10	0.08	0.09	0.06	0.08	0.08	0.16	0.31
s, saturation flow rate [veh/h]	1096	1683	1570	1050	1683	1519	859	1683	1513	1017	1603
c, Capacity [veh/h]	613	687	641	580	691	623	128	645	580	384	613
d1, Uniform Delay [s]	12.86	19.48	19.53	12.96	18.94	19.00	44.46	20.57	20.66	28.69	27.43
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.56	0.86	0.95	0.14	0.65	0.75	2.11	0.15	0.18	0.76	3.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.16	0.25	0.25	0.17	0.20	0.21	0.41	0.20	0.21	0.43	0.80
d, Delay for Lane Group [s/veh]	13.42	20.35	20.48	13.10	19.59	19.76	46.58	20.72	20.83	29.45	30.80
Lane Group LOS	B	C	C	B	B	B	D	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	1.21	2.74	2.63	1.16	2.15	2.04	0.86	2.00	1.90	3.28	10.60
50th-Percentile Queue Length [ft]	30.29	68.49	65.72	29.09	53.80	50.98	21.38	49.97	47.47	82.05	265.09
95th-Percentile Queue Length [veh]	2.18	4.93	4.73	2.09	3.87	3.67	1.54	3.60	3.42	5.91	15.94
95th-Percentile Queue Length [ft]	54.53	123.28	118.29	52.36	96.84	91.76	38.49	89.95	85.44	147.69	398.60

Movement, Approach, & Intersection Results

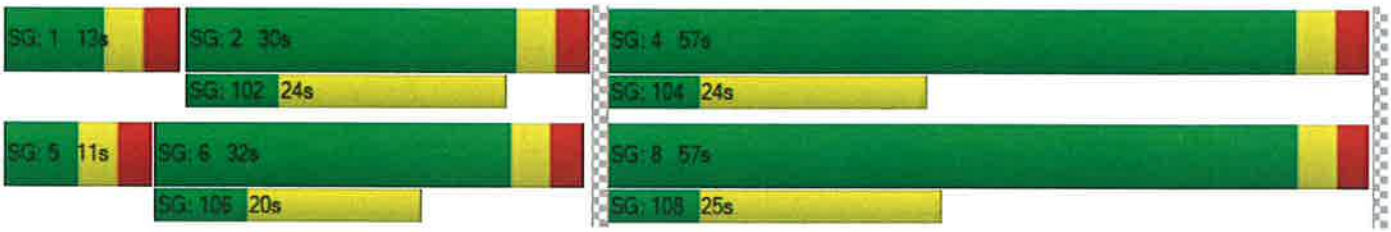
d_M, Delay for Movement [s/veh]	13.42	20.40	20.48	13.10	19.63	19.76	46.58	20.75	20.83	29.45	30.80	30.80
Movement LOS	B	C	C	B	B	B	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	18.82			17.88			25.30			30.46		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	24.08											
Intersection LOS	C											
Intersection V/C	0.444											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	39.61	39.61	39.61	39.61
l_p,int, Pedestrian LOS Score for Intersection	2.706	2.541	2.398	2.438
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	494	534	1036	1034
d_b, Bicycle Delay [s]	28.35	26.86	11.62	11.66
l_b,int, Bicycle LOS Score for Intersection	1.915	1.862	1.809	2.637
Bicycle LOS	A	A	A	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Rd/Railroad Dr

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	Saliman Rd		Saliman Rd		Railroad Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Saliman Rd		Saliman Rd		Railroad Dr	
Base Volume Input [veh/h]	334	1	2	186	12	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	334	1	2	186	12	11
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	0	1	54	3	3
Total Analysis Volume [veh/h]	388	1	2	216	14	13
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	8.09	0.00	11.15	9.63
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.01	0.00	0.12	0.12
95th-Percentile Queue Length [ft]	0.00	0.00	0.13	0.00	3.05	3.05
d_A, Approach Delay [s/veh]	0.00		0.07		10.42	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.47					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Fairview Dr/Saliman Rd

Control Type:	Signalized	Delay (sec / veh):	24.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.427

Intersection Setup

Name	Saliman Rd			Saliman Rd			Fairview Dr			Fairview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	1	0	0	1	0	0
Pocket Length [ft]	70.00	100.00	110.00	100.00	100.00	170.00	120.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Fairview Dr			Fairview Dr		
Base Volume Input [veh/h]	18	168	306	55	101	40	29	184	6	107	417	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	168	306	55	101	40	29	184	6	107	417	87
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	45	81	15	27	11	8	49	2	28	111	23
Total Analysis Volume [veh/h]	19	179	326	59	107	43	31	196	6	114	444	93
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	32	0	9	32	0	9	40	0	9	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	57	50	50	57	51	51	25	16	16	25	18	18
g / C, Green / Cycle	0.64	0.55	0.55	0.64	0.57	0.57	0.27	0.17	0.17	0.27	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.02	0.11	0.23	0.05	0.06	0.03	0.03	0.06	0.06	0.09	0.17	0.17
s, saturation flow rate [veh/h]	1179	1669	1419	1129	1669	1419	932	1669	1652	1206	1669	1571
c, Capacity [veh/h]	827	916	779	771	953	810	248	290	287	392	333	313
d1, Uniform Delay [s]	6.07	10.27	11.90	6.34	8.87	8.56	25.36	32.72	32.73	25.68	34.59	34.64
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.05	0.48	1.65	0.04	0.24	0.12	0.22	0.71	0.73	0.41	5.29	5.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.02	0.20	0.42	0.08	0.11	0.05	0.12	0.35	0.35	0.29	0.83	0.83
d, Delay for Lane Group [s/veh]	6.12	10.74	13.55	6.38	9.11	8.69	25.59	33.43	33.46	26.09	39.89	40.43
Lane Group LOS	A	B	B	A	A	A	C	C	C	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	0.13	1.80	3.90	0.39	0.96	0.38	0.50	1.97	1.97	1.92	6.16	5.88
50th-Percentile Queue Length [ft]	3.27	45.02	97.58	9.70	23.97	9.38	12.46	49.36	49.18	48.02	153.89	146.93
95th-Percentile Queue Length [veh]	0.24	3.24	7.03	0.70	1.73	0.68	0.90	3.55	3.54	3.46	10.22	9.85
95th-Percentile Queue Length [ft]	5.88	81.04	175.65	17.46	43.14	16.89	22.43	88.84	88.52	86.43	255.61	246.32

Movement, Approach, & Intersection Results

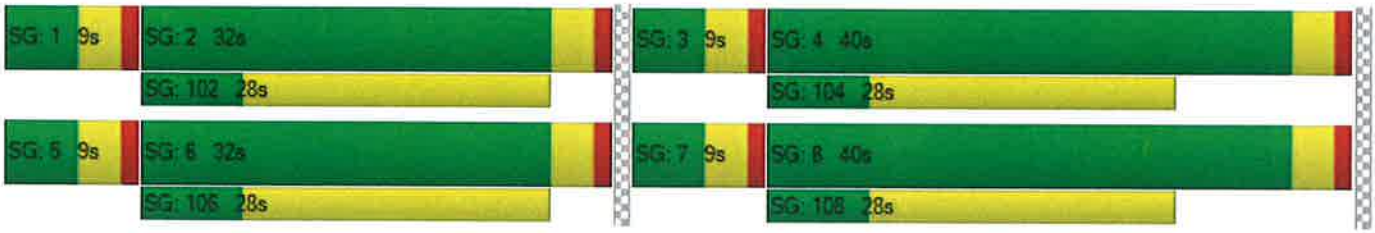
d_M, Delay for Movement [s/veh]	6.12	10.74	13.55	6.38	9.11	8.69	25.59	33.45	33.46	26.09	40.09	40.43
Movement LOS	A	B	B	A	A	A	C	C	C	C	D	D
d_A, Approach Delay [s/veh]	12.32			8.25			32.40			37.69		
Approach LOS	B			A			C			D		
d_I, Intersection Delay [s/veh]	24.90											
Intersection LOS	C											
Intersection V/C	0.427											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.345	2.409	2.460	2.588
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	622	800	800
d_b, Bicycle Delay [s]	21.36	21.36	16.20	16.20
l_b,int, Bicycle LOS Score for Intersection	2.424	1.904	1.752	2.097
Bicycle LOS	B	A	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Appendix B

2025 Background Conditions LOS Calculations

Generated with PTV VISTRO

Version 5.00-00

2025 Background PM

Intersection Level Of Service Report
Intersection 1: Saliman Rd/5th St

Control Type:	Signalized	Delay (sec / veh):	23.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.465

Intersection Setup

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	160.00	100.00	100.00	170.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Base Volume Input [veh/h]	52	211	109	52	220	83	112	329	79	61	165	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.40	1.40	1.40	1.40	1.40	1.40	1.50	1.50	1.50	1.50	1.50	1.50
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	46	57	9	32	22	31	37	0	39	26	11
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	341	210	82	340	138	199	531	119	131	274	67
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	94	58	23	93	38	55	146	33	36	75	18
Total Analysis Volume [veh/h]	80	375	231	90	374	152	219	584	131	144	301	74
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	2.3	2.3	0.0	2.4	2.3	0.0	0.0	2.2	0.0	0.0	2.3	0.0
Split [s]	11	30	0	11	30	0	0	39	0	0	39	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	13	0	0	18	0	0	17	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.4	3.3	0.0	0.0	3.2	0.0	0.0	3.3	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.30	5.30	5.20	5.20	5.20	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	3.30	0.00	3.30	3.30	0.00	3.20	3.20	3.30	3.30
g_i, Effective Green Time [s]	36	26	26	36	26	26	34	34	34	34	34
g / C, Green / Cycle	0.45	0.32	0.32	0.45	0.33	0.33	0.42	0.42	0.42	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.08	0.19	0.19	0.10	0.16	0.17	0.23	0.22	0.22	0.22	0.23
s, saturation flow rate [veh/h]	963	1683	1472	924	1683	1521	950	1683	1578	662	1626
c, Capacity [veh/h]	453	545	476	424	550	497	273	709	665	246	684
d1, Uniform Delay [s]	13.69	22.62	22.68	14.16	21.67	21.73	31.31	17.14	17.14	29.89	17.47
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.85	4.65	5.43	0.25	3.22	3.65	5.41	0.59	0.63	2.21	0.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.18	0.59	0.60	0.21	0.50	0.51	0.80	0.52	0.52	0.59	0.55
d, Delay for Lane Group [s/veh]	14.54	27.26	28.11	14.41	24.90	25.38	36.72	17.74	17.78	32.10	18.16
Lane Group LOS	B	C	C	B	C	C	D	B	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh]	0.90	5.53	5.00	0.93	4.45	4.14	2.94	4.82	4.53	2.75	5.00
50th-Percentile Queue Length [ft]	22.48	138.18	124.90	23.16	111.27	103.44	73.44	120.62	113.26	68.63	124.96
95th-Percentile Queue Length [veh]	1.62	9.38	8.66	1.67	7.91	7.45	5.29	8.43	8.02	4.94	8.67
95th-Percentile Queue Length [ft]	40.47	234.57	216.54	41.69	197.77	186.19	132.18	210.68	200.53	123.54	216.63

Movement, Approach, & Intersection Results

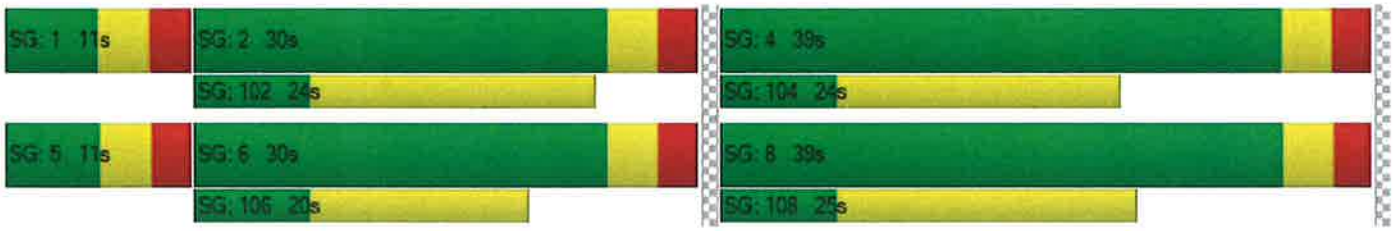
d_M, Delay for Movement [s/veh]	14.54	27.39	28.11	14.41	25.03	25.38	36.72	17.75	17.78	32.10	18.16	18.16
Movement LOS	B	C	C	B	C	C	D	B	B	C	B	B
d_A, Approach Delay [s/veh]	26.13			23.56			22.20			22.03		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	23.45											
Intersection LOS	C											
Intersection V/C	0.465											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
l_p,int, Pedestrian LOS Score for Intersection	2.758	2.855	2.522	2.516
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	618	618	845	843
d_b, Bicycle Delay [s]	19.11	19.11	13.34	13.40
l_b,int, Bicycle LOS Score for Intersection	2.126	2.068	2.330	2.416
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Rd/Railroad Dr

Control Type:	Two-way stop	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Saliman Rd		Saliman Rd		Railroad Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Saliman Rd		Saliman Rd		Railroad Dr	
Base Volume Input [veh/h]	307	9	20	424	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Rate	1.55	1.55	1.55	1.55	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	103	0	0	71	0	0
Total Hourly Volume [veh/h]	579	14	31	728	6	11
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	152	4	8	192	2	3
Total Analysis Volume [veh/h]	609	15	33	766	6	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.01	0.01	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	8.88	0.00	14.20	10.46
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.11	0.00	0.10	0.10
95th-Percentile Queue Length [ft]	0.00	0.00	2.67	0.00	2.51	2.51
d_A, Approach Delay [s/veh]	0.00		0.37		11.71	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.35					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Fairview Dr/Saliman Rd

Control Type:	Signalized	Delay (sec / veh):	26.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.580

Intersection Setup

Name	Saliman Rd			Saliman Rd			Fairview Dr			Fairview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	1	0	0	1	0	0
Pocket Length [ft]	70.00	100.00	110.00	100.00	100.00	170.00	120.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Fairview Dr			Fairview Dr		
Base Volume Input [veh/h]	19	131	171	101	256	56	53	506	29	302	461	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Rate	1.10	1.10	1.10	1.55	1.55	1.55	1.05	1.05	1.05	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	35	0	36	51	0	0	0	0	52
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	144	188	192	397	123	107	531	30	302	461	152
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	40	53	54	112	35	30	149	8	85	129	43
Total Analysis Volume [veh/h]	24	162	211	216	446	138	120	597	34	339	518	171
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	13	35	0	11	43	0	12	44	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	41	28	28	41	35	35	51	39	39	51	41	41
g / C, Green / Cycle	0.41	0.28	0.28	0.41	0.35	0.35	0.51	0.39	0.39	0.51	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.03	0.10	0.15	0.17	0.26	0.10	0.14	0.19	0.19	0.38	0.21	0.21
s, saturation flow rate [veh/h]	938	1696	1442	1245	1696	1442	828	1696	1665	898	1696	1554
c, Capacity [veh/h]	300	481	409	541	593	504	409	655	643	451	692	634
d1, Uniform Delay [s]	20.04	28.37	30.06	20.15	28.73	23.42	14.88	23.18	23.19	21.23	22.25	22.25
k, delay calibration	0.50	0.50	0.50	0.14	0.50	0.50	0.11	0.11	0.11	0.40	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.52	1.89	4.59	0.62	8.59	1.34	0.40	0.56	0.57	8.96	0.61	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.08	0.34	0.52	0.40	0.75	0.27	0.29	0.49	0.49	0.75	0.52	0.52
d, Delay for Lane Group [s/veh]	20.56	30.26	34.65	20.77	37.31	24.76	15.27	23.74	23.76	30.20	22.86	22.91
Lane Group LOS	C	C	C	C	D	C	B	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh]	0.37	3.30	4.72	3.43	10.60	2.50	1.45	5.66	5.56	5.78	6.31	5.79
50th-Percentile Queue Length [ft]	9.24	82.43	118.10	85.80	264.91	62.60	36.26	141.45	139.00	144.41	157.68	144.74
95th-Percentile Queue Length [veh]	0.67	5.93	8.29	6.18	15.93	4.51	2.61	9.56	9.43	9.72	10.43	9.74
95th-Percentile Queue Length [ft]	16.63	148.37	207.21	154.43	398.37	112.68	65.27	238.97	235.68	242.94	260.64	243.39

Movement, Approach, & Intersection Results

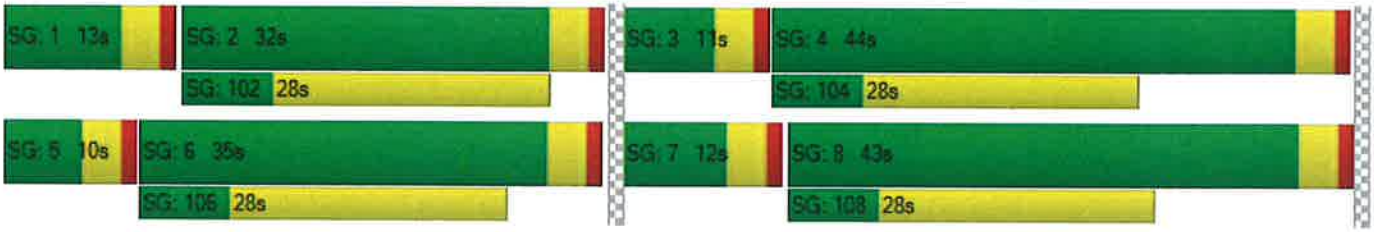
d_M, Delay for Movement [s/veh]	20.56	30.26	34.65	20.77	37.31	24.76	15.27	23.75	23.76	30.20	22.87	22.91
Movement LOS	C	C	C	C	D	C	B	C	C	C	C	C
d_A, Approach Delay [s/veh]	32.01			30.68			22.40			25.29		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	26.91											
Intersection LOS	C											
Intersection V/C	0.580											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	39.61	39.61	39.61	39.61
l_p,int, Pedestrian LOS Score for Intersection	2.639	2.622	2.596	2.798
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	560	620	780	800
d_b, Bicycle Delay [s]	25.92	23.81	18.61	18.00
l_b,int, Bicycle LOS Score for Intersection	2.215	2.880	2.179	2.408
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Saliman Rd/5th St

Control Type:	Signalized	Delay (sec / veh):	36.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.731

Intersection Setup

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	160.00	100.00	100.00	170.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Base Volume Input [veh/h]	84	230	57	86	162	68	46	148	66	141	302	119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.40	1.40	1.40	1.40	1.40	1.40	1.50	1.50	1.50	1.50	1.50	1.50
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	27	33	12	49	32	18	22	0	59	40	8
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	118	349	113	132	276	127	87	244	99	271	493	187
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	101	33	38	80	37	25	71	29	79	143	54
Total Analysis Volume [veh/h]	137	406	131	153	321	148	101	284	115	315	573	217
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	2.3	2.3	0.0	2.4	2.3	0.0	0.0	2.2	0.0	0.0	2.3	0.0
Split [s]	15	30	0	11	26	0	0	79	0	0	79	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	13	0	0	18	0	0	17	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.4	3.3	0.0	0.0	3.2	0.0	0.0	3.3	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.30	5.30	5.20	5.20	5.20	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	3.30	0.00	3.30	3.30	0.00	3.20	3.20	3.30	3.30
g_i, Effective Green Time [s]	38	27	27	38	23	23	71	71	71	71	71
g / C, Green / Cycle	0.32	0.23	0.23	0.32	0.19	0.19	0.59	0.59	0.59	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.13	0.17	0.17	0.16	0.15	0.15	0.16	0.12	0.13	0.36	0.49
s, saturation flow rate [veh/h]	1091	1683	1545	975	1683	1507	646	1683	1522	887	1605
c, Capacity [veh/h]	319	381	350	277	327	293	162	1000	905	518	953
d1, Uniform Delay [s]	31.88	43.04	43.11	32.60	45.58	45.69	48.24	11.26	11.29	21.73	19.51
k, delay calibration	0.50	0.50	0.50	0.16	0.50	0.50	0.11	0.11	0.11	0.15	0.32
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.19	11.76	13.04	2.50	14.65	16.91	3.92	0.10	0.12	1.60	5.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.73	0.74	0.55	0.75	0.76	0.62	0.21	0.21	0.61	0.83
d, Delay for Lane Group [s/veh]	36.06	54.80	56.15	35.10	60.23	62.60	52.16	11.36	11.41	23.33	24.95
Lane Group LOS	D	D	E	D	E	E	D	B	B	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	3.35	8.91	8.36	3.55	8.24	7.66	1.32	2.54	2.36	6.69	18.01
50th-Percentile Queue Length [ft]	83.63	222.66	209.12	88.78	205.89	191.43	33.03	63.49	59.01	167.15	450.26
95th-Percentile Queue Length [veh]	6.02	13.80	13.11	6.39	12.94	12.20	2.38	4.57	4.25	10.93	24.97
95th-Percentile Queue Length [ft]	150.53	345.02	327.70	159.80	323.55	304.88	59.46	114.28	106.21	273.17	624.26

Movement, Approach, & Intersection Results

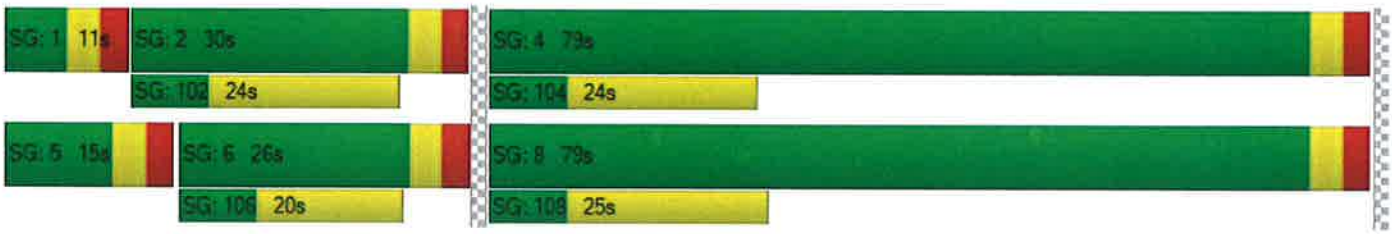
d_M, Delay for Movement [s/veh]	36.06	55.22	56.15	35.10	60.78	62.60	52.16	11.37	11.41	23.33	24.95	24.95
Movement LOS	D	E	E	D	E	E	D	B	B	C	C	C
d_A, Approach Delay [s/veh]	51.51			54.90			19.62			24.49		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	36.45											
Intersection LOS	D											
Intersection V/C	0.731											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	3.040	2.720	2.517	2.605
Crosswalk LOS	C	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	412	345	1230	1228
d_b, Bicycle Delay [s]	37.84	41.09	8.89	8.93
l_b,int, Bicycle LOS Score for Intersection	2.116	2.073	1.972	3.383
Bicycle LOS	B	B	A	C

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Rd/Railroad Dr

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.035

Intersection Setup

Name	Saliman Rd		Saliman Rd		Railroad Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Saliman Rd		Saliman Rd		Railroad Dr	
Base Volume Input [veh/h]	334	1	2	186	12	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.55	1.55	1.55	1.55	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	60	0	0	108	0	0
Total Hourly Volume [veh/h]	578	2	3	396	13	12
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	168	1	1	115	4	3
Total Analysis Volume [veh/h]	672	2	3	460	15	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.04	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	8.96	0.00	13.88	10.88
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.01	0.00	0.18	0.18
95th-Percentile Queue Length [ft]	0.00	0.00	0.25	0.00	4.48	4.48
d_A, Approach Delay [s/veh]	0.00		0.06		12.43	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.33					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Fairview Dr/Saliman Rd

Control Type:	Signalized	Delay (sec / veh):	23.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.505

Intersection Setup

Name	Saliman Rd			Saliman Rd			Fairview Dr			Fairview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	1	0	0	1	0	0
Pocket Length [ft]	70.00	100.00	110.00	100.00	100.00	170.00	120.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Fairview Dr			Fairview Dr		
Base Volume Input [veh/h]	18	168	306	55	101	40	29	184	6	107	417	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Growth Rate	1.10	1.10	1.10	1.55	1.55	1.55	1.05	1.05	1.05	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	54	0	54	30	0	0	0	0	30
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	185	337	139	157	116	60	193	6	107	417	117
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	49	90	37	42	31	16	51	2	28	111	31
Total Analysis Volume [veh/h]	21	197	359	148	167	123	64	205	6	114	444	124
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	32	0	9	32	0	9	40	0	9	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	55	46	46	55	49	49	27	18	18	27	19	19
g / C, Green / Cycle	0.61	0.51	0.51	0.61	0.54	0.54	0.30	0.20	0.20	0.30	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.02	0.12	0.25	0.13	0.10	0.09	0.07	0.06	0.06	0.10	0.18	0.18
s, saturation flow rate [veh/h]	1125	1669	1419	1126	1669	1419	940	1669	1653	1187	1669	1546
c, Capacity [veh/h]	743	853	725	730	907	771	270	333	330	416	352	326
d1, Uniform Delay [s]	7.04	12.22	14.43	7.76	10.43	10.28	24.40	30.82	30.83	23.92	34.07	34.12
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.07	0.63	2.41	0.14	0.45	0.44	0.45	0.54	0.55	0.35	5.27	5.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.03	0.23	0.50	0.20	0.18	0.16	0.24	0.32	0.32	0.27	0.84	0.84
d, Delay for Lane Group [s/veh]	7.11	12.86	16.84	7.90	10.88	10.72	24.85	31.36	31.38	24.27	39.34	39.99
Lane Group LOS	A	B	B	A	B	B	C	C	C	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	0.16	2.23	4.97	1.14	1.69	1.24	1.01	1.99	1.98	1.84	6.53	6.15
50th-Percentile Queue Length [ft]	4.00	55.86	124.27	28.54	42.31	31.03	25.24	49.66	49.45	45.96	163.33	153.74
95th-Percentile Queue Length [veh]	0.29	4.02	8.63	2.05	3.05	2.23	1.82	3.58	3.56	3.31	10.73	10.22
95th-Percentile Queue Length [ft]	7.19	100.55	215.68	51.36	76.17	55.86	45.44	89.38	89.00	82.74	268.13	255.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.11	12.86	16.84	7.90	10.88	10.72	24.85	31.37	31.38	24.27	39.56	39.99
Movement LOS	A	B	B	A	B	B	C	C	C	C	D	D
d_A, Approach Delay [s/veh]	15.13			9.83			29.85			37.08		
Approach LOS	B			A			C			D		
d_I, Intersection Delay [s/veh]	23.60											
Intersection LOS	C											
Intersection V/C	0.505											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.377	2.481	2.485	2.684
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	622	800	800
d_b, Bicycle Delay [s]	21.36	21.36	16.20	16.20
l_b,int, Bicycle LOS Score for Intersection	2.512	2.282	1.786	2.122
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix C

2025 Background Plus Project LOS Calculations

Intersection Level Of Service Report
Intersection 1: Saliman Rd/5th St

Control Type:	Signalized	Delay (sec / veh):	23.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.466

Intersection Setup

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	160.00	100.00	100.00	170.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Base Volume Input [veh/h]	52	211	109	52	220	83	112	329	79	61	165	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.40	1.40	1.40	1.40	1.40	1.40	1.50	1.50	1.50	1.50	1.50	1.50
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	2	2	0	4	0	0	0	14	4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	46	57	9	32	22	31	37	0	39	26	11
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	343	212	82	344	138	199	531	133	135	274	67
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	94	58	23	95	38	55	146	37	37	75	18
Total Analysis Volume [veh/h]	89	377	233	90	378	152	219	584	146	148	301	74
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	2.3	2.3	0.0	2.4	2.3	0.0	0.0	2.2	0.0	0.0	2.3	0.0
Split [s]	11	30	0	11	30	0	0	39	0	0	39	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	13	0	0	18	0	0	17	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.4	3.3	0.0	0.0	3.2	0.0	0.0	3.3	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.30	5.30	5.20	5.20	5.20	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	3.30	0.00	3.30	3.30	0.00	3.20	3.20	3.30	3.30
g_i, Effective Green Time [s]	36	26	26	36	26	26	34	34	34	34	34
g / C, Green / Cycle	0.45	0.32	0.32	0.45	0.33	0.33	0.42	0.42	0.42	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.09	0.19	0.19	0.10	0.16	0.17	0.23	0.22	0.22	0.23	0.23
s, saturation flow rate [veh/h]	964	1683	1471	923	1683	1522	950	1683	1568	653	1626
c, Capacity [veh/h]	453	543	475	422	545	493	274	711	662	241	685
d1, Uniform Delay [s]	13.83	22.72	22.77	14.22	21.87	21.93	31.27	17.21	17.21	30.57	17.42
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.97	4.77	5.56	0.25	3.35	3.79	5.35	0.62	0.66	2.53	0.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.60	0.60	0.21	0.51	0.51	0.80	0.53	0.53	0.61	0.55
d, Delay for Lane Group [s/veh]	14.80	27.48	28.33	14.47	25.22	25.72	36.62	17.83	17.87	33.10	18.10
Lane Group LOS	B	C	C	B	C	C	D	B	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh]	1.01	5.59	5.05	0.93	4.52	4.20	2.93	4.97	4.64	2.89	4.99
50th-Percentile Queue Length [ft]	25.24	139.77	126.16	23.19	112.93	105.03	73.28	124.27	116.01	72.17	124.83
95th-Percentile Queue Length [veh]	1.82	9.47	8.73	1.67	8.00	7.56	5.28	8.63	8.17	5.20	8.66
95th-Percentile Queue Length [ft]	45.44	236.71	218.26	41.74	200.08	189.05	131.90	215.68	204.33	129.91	216.45

Movement, Approach, & Intersection Results

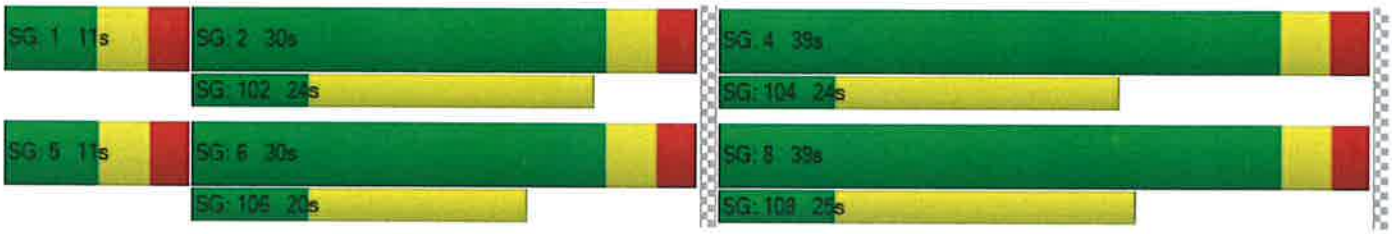
d_M, Delay for Movement [s/veh]	14.80	27.60	28.33	14.47	25.35	25.72	36.62	17.84	17.87	33.10	18.10	18.10
Movement LOS	B	C	C	B	C	C	D	B	B	C	B	B
d_A, Approach Delay [s/veh]	26.22			23.86			22.18			22.35		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	23.60											
Intersection LOS	C											
Intersection V/C	0.466											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
l_p,int, Pedestrian LOS Score for Intersection	2.771	2.856	2.532	2.518
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	618	618	845	843
d_b, Bicycle Delay [s]	19.11	19.11	13.34	13.40
l_b,int, Bicycle LOS Score for Intersection	2.136	2.071	2.343	2.423
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Rd/Railroad Dr

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.100

Intersection Setup

Name	Saliman Rd		Saliman Rd		Railroad Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Saliman Rd		Saliman Rd		Railroad Dr	
Base Volume Input [veh/h]	307	9	20	424	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Rate	1.55	1.55	1.55	1.55	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	50	22	0	29	12
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	103	0	0	71	0	0
Total Hourly Volume [veh/h]	579	64	53	728	35	23
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	152	17	14	192	9	6
Total Analysis Volume [veh/h]	609	67	56	766	37	24
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.06	0.01	0.10	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	9.18	0.00	15.96	11.71
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.19	0.00	0.47	0.47
95th-Percentile Queue Length [ft]	0.00	0.00	4.86	0.00	11.69	11.69
d_A, Approach Delay [s/veh]	0.00		0.63		14.29	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.89					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: Fairview Dr/Saliman Rd

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

Intersection Setup

Name	Saliman Rd			Saliman Rd			Fairview Dr			Fairview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	1	0	0	1	0	0
Pocket Length [ft]	70.00	100.00	110.00	100.00	100.00	170.00	120.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Fairview Dr			Fairview Dr		
Base Volume Input [veh/h]	19	131	171	101	256	56	53	506	29	302	461	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Rate	1.10	1.10	1.10	1.55	1.55	1.55	1.05	1.05	1.05	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	0	12	2	15	25	0	0	0	0	21
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	35	0	36	51	0	0	0	0	52
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	148	188	204	399	138	132	531	30	302	461	173
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	42	53	57	112	39	37	149	8	85	129	49
Total Analysis Volume [veh/h]	24	166	211	229	448	155	148	597	34	339	518	194
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	13	35	0	11	43	0	12	44	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	41	28	28	41	35	35	51	39	39	51	40	40
g / C, Green / Cycle	0.41	0.28	0.28	0.41	0.35	0.35	0.51	0.39	0.39	0.51	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.03	0.10	0.15	0.18	0.26	0.11	0.18	0.19	0.19	0.38	0.22	0.22
s, saturation flow rate [veh/h]	937	1696	1442	1242	1696	1442	835	1696	1665	898	1696	1541
c, Capacity [veh/h]	295	478	407	535	590	501	411	658	646	454	677	615
d1, Uniform Delay [s]	20.24	28.57	30.20	20.48	28.92	23.84	15.31	23.06	23.07	20.96	23.15	23.16
k, delay calibration	0.50	0.50	0.50	0.17	0.50	0.50	0.15	0.11	0.11	0.42	0.13	0.13
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.54	1.99	4.67	0.84	8.91	1.60	0.74	0.55	0.56	9.06	0.82	0.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.08	0.35	0.52	0.43	0.76	0.31	0.36	0.48	0.48	0.75	0.55	0.55
d, Delay for Lane Group [s/veh]	20.78	30.56	34.87	21.33	37.83	25.44	16.05	23.62	23.63	30.02	23.97	24.06
Lane Group LOS	C	C	C	C	D	C	B	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh]	0.37	3.40	4.75	3.72	10.74	2.87	1.84	5.63	5.53	5.77	6.75	6.15
50th-Percentile Queue Length [ft]	9.30	85.10	118.65	92.88	268.47	71.75	46.01	140.80	138.33	144.19	168.79	153.78
95th-Percentile Queue Length [veh]	0.67	6.13	8.32	6.69	16.11	5.17	3.31	9.52	9.39	9.71	11.01	10.22
95th-Percentile Queue Length [ft]	16.74	153.19	207.97	167.19	402.83	129.14	82.82	238.10	234.77	242.65	275.32	255.47

Movement, Approach, & Intersection Results

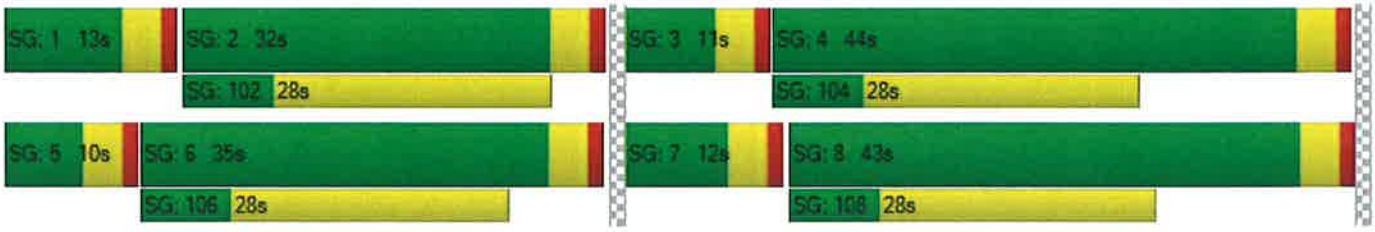
d_M, Delay for Movement [s/veh]	20.78	30.56	34.87	21.33	37.83	25.44	16.05	23.62	23.63	30.02	24.00	24.06
Movement LOS	C	C	C	C	D	C	B	C	C	C	C	C
d_A, Approach Delay [s/veh]	32.24			30.98			22.18			25.95		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	27.18											
Intersection LOS	C											
Intersection V/C	0.581											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	39.61	39.61	39.61	39.61
l_p,int, Pedestrian LOS Score for Intersection	2.640	2.654	2.605	2.810
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	560	620	780	800
d_b, Bicycle Delay [s]	25.92	23.81	18.61	18.00
l_b,int, Bicycle LOS Score for Intersection	2.221	2.932	2.202	2.427
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Saliman Rd/5th St

Control Type:	Signalized	Delay (sec / veh):	36.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

Intersection Setup

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	160.00	100.00	100.00	170.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Base Volume Input [veh/h]	84	230	57	86	162	68	46	148	66	141	302	119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.40	1.40	1.40	1.40	1.40	1.40	1.50	1.50	1.50	1.50	1.50	1.50
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	3	3	0	1	0	0	0	4	1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	27	33	12	49	32	18	22	0	59	40	8
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	352	116	132	277	127	87	244	103	272	493	187
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	102	34	38	81	37	25	71	30	79	143	54
Total Analysis Volume [veh/h]	152	409	135	153	322	148	101	284	120	316	573	217
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	2.3	2.3	0.0	2.4	2.3	0.0	0.0	2.2	0.0	0.0	2.3	0.0
Split [s]	15	30	0	11	26	0	0	79	0	0	79	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	13	0	0	18	0	0	17	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.4	3.3	0.0	0.0	3.2	0.0	0.0	3.3	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.30	5.30	5.20	5.20	5.20	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	3.30	0.00	3.30	3.30	0.00	3.20	3.20	3.30	3.30
g_i, Effective Green Time [s]	38	27	27	38	23	23	71	71	71	71	71
g / C, Green / Cycle	0.32	0.23	0.23	0.32	0.19	0.19	0.59	0.59	0.59	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.14	0.17	0.17	0.16	0.15	0.15	0.16	0.12	0.13	0.36	0.49
s, saturation flow rate [veh/h]	1094	1683	1542	971	1683	1507	646	1683	1517	883	1605
c, Capacity [veh/h]	319	380	348	274	324	290	162	1001	903	516	954
d1, Uniform Delay [s]	32.29	43.22	43.28	32.71	45.82	45.93	48.10	11.25	11.29	21.85	19.47
k, delay calibration	0.50	0.50	0.50	0.16	0.50	0.50	0.11	0.11	0.11	0.15	0.32
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.04	12.43	13.75	2.61	15.40	17.76	3.86	0.10	0.12	1.68	5.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.74	0.75	0.56	0.76	0.77	0.62	0.21	0.21	0.61	0.83
d, Delay for Lane Group [s/veh]	37.33	55.64	57.03	35.32	61.22	63.69	51.96	11.35	11.41	23.53	24.88
Lane Group LOS	D	E	E	D	E	E	D	B	B	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	3.78	9.10	8.53	3.56	8.32	7.74	1.32	2.58	2.39	6.76	18.01
50th-Percentile Queue Length [ft]	94.49	227.59	213.24	88.92	207.95	193.48	32.99	64.53	59.81	168.99	450.32
95th-Percentile Queue Length [veh]	6.80	14.05	13.32	6.40	13.05	12.30	2.38	4.65	4.31	11.02	24.97
95th-Percentile Queue Length [ft]	170.09	351.29	332.98	160.06	326.20	307.54	59.39	116.16	107.65	275.59	624.33

Movement, Approach, & Intersection Results

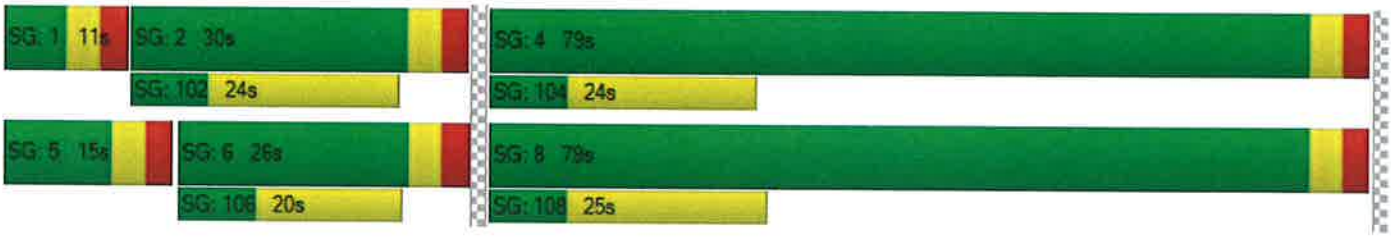
d_M, Delay for Movement [s/veh]	37.33	56.07	57.03	35.32	61.80	63.69	51.96	11.37	11.41	23.53	24.88	24.88
Movement LOS	D	E	E	D	E	E	D	B	B	C	C	C
d_A, Approach Delay [s/veh]	52.16			55.75			19.49			24.49		
Approach LOS	D			E			B			C		
d_I, Intersection Delay [s/veh]	36.85											
Intersection LOS	D											
Intersection V/C	0.734											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	3.047	2.721	2.526	2.607
Crosswalk LOS	C	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	412	345	1230	1228
d_b, Bicycle Delay [s]	37.84	41.09	8.89	8.93
l_b,int, Bicycle LOS Score for Intersection	2.134	2.074	1.976	3.385
Bicycle LOS	B	B	A	C

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Rd/Railroad Dr

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.158

Intersection Setup

Name	Saliman Rd		Saliman Rd		Railroad Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Saliman Rd		Saliman Rd		Railroad Dr	
Base Volume Input [veh/h]	334	1	2	186	12	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.55	1.55	1.55	1.55	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	6	0	44	19
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	60	0	0	108	0	0
Total Hourly Volume [veh/h]	578	16	9	396	57	31
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	168	5	3	115	17	9
Total Analysis Volume [veh/h]	672	19	10	460	66	36
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.16	0.06
d_M, Delay for Movement [s/veh]	0.00	0.00	9.05	0.00	15.68	12.57
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.03	0.00	0.80	0.80
95th-Percentile Queue Length [ft]	0.00	0.00	0.84	0.00	20.05	20.05
d_A, Approach Delay [s/veh]	0.00		0.19		14.58	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.25					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: Fairview Dr/Saliman Rd

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.517

Intersection Setup

Name	Saliman Rd			Saliman Rd			Fairview Dr			Fairview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	1	0	0	1	0	0
Pocket Length [ft]	70.00	100.00	110.00	100.00	100.00	170.00	120.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Fairview Dr			Fairview Dr		
Base Volume Input [veh/h]	18	168	306	55	101	40	29	184	6	107	417	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Growth Rate	1.10	1.10	1.10	1.55	1.55	1.55	1.05	1.05	1.05	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	0	19	3	22	7	0	0	0	0	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	54	0	54	30	0	0	0	0	30
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	186	337	158	160	138	67	193	6	107	417	123
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	49	90	42	43	37	18	51	2	28	111	33
Total Analysis Volume [veh/h]	21	198	359	168	170	147	71	205	6	114	444	131
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	32	0	9	32	0	9	40	0	9	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	55	46	46	55	49	49	27	18	18	27	19	19
g / C, Green / Cycle	0.61	0.51	0.51	0.61	0.54	0.54	0.30	0.20	0.20	0.30	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.02	0.12	0.25	0.15	0.10	0.10	0.08	0.06	0.06	0.10	0.18	0.18
s, saturation flow rate [veh/h]	1123	1669	1419	1126	1669	1419	939	1669	1653	1185	1669	1541
c, Capacity [veh/h]	735	846	719	724	900	765	273	340	337	421	356	328
d1, Uniform Delay [s]	7.20	12.45	14.69	8.05	10.65	10.67	24.28	30.48	30.49	23.62	33.95	34.00
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.07	0.65	2.47	0.16	0.47	0.56	0.50	0.51	0.52	0.34	5.27	5.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.03	0.23	0.50	0.23	0.19	0.19	0.26	0.31	0.31	0.27	0.84	0.84
d, Delay for Lane Group [s/veh]	7.27	13.10	17.16	8.21	11.12	11.23	24.78	31.00	31.02	23.97	39.22	39.89
Lane Group LOS	A	B	B	A	B	B	C	C	C	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	0.16	2.27	5.03	1.34	1.75	1.53	1.12	1.97	1.96	1.82	6.62	6.21
50th-Percentile Queue Length [ft]	4.06	56.84	125.77	33.38	43.71	38.32	27.95	49.31	49.10	45.62	165.46	155.26
95th-Percentile Queue Length [veh]	0.29	4.09	8.71	2.40	3.15	2.76	2.01	3.55	3.54	3.28	10.84	10.30
95th-Percentile Queue Length [ft]	7.30	102.31	217.74	60.09	78.67	68.97	50.31	88.76	88.38	82.11	270.94	257.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.27	13.10	17.16	8.21	11.12	11.23	24.78	31.01	31.02	23.97	39.44	39.89
Movement LOS	A	B	B	A	B	B	C	C	C	C	D	D
d_A, Approach Delay [s/veh]	15.41			10.15			29.44			36.97		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	23.40											
Intersection LOS	C											
Intersection V/C	0.517											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.379	2.496	2.490	2.703
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	622	800	800
d_b, Bicycle Delay [s]	21.36	21.36	16.20	16.20
l_b,int, Bicycle LOS Score for Intersection	2.513	2.360	1.792	2.128
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-