Draft Report

Traffic Impact Study for the Vineyard Crossing Subdivision

in the
County of Mendocino

August 24, 2017

490 Mendocino Avenue, Suite 201 **SANTA ROSA**, CA 95401 707.542.9500
505 17th Street, 2nd Floor **OAKLAND**, CA 94612 510.444.2600
1276 Lincoln Avenue, Suite 204 **SAN JOSE**, CA 95125 650.314.8313
w-trans.com

Table of Contents

Executive Summary 1

Introduction 2

Transportation Setting 4

Capacity Analysis 8

Alternative Modes 21

Access and Circulation 22

Conclusions and Recommendations 24

Study Participants and References 25

Figures

1. Study Area and Lane Configurations 3
2. Existing Traffic Volumes 10
3. Future Traffic Volumes 12
4. Site Plan 15
5. Project Traffic Volumes 17

Tables

1. Collision Rates at the Study Intersections 5
2. Bicycle Facility Summary 7
3. Intersection Level of Service Criteria 8
4. Existing Peak Hour Intersection Levels of Service 11
5. Future Peak Hour Intersection Levels of Service 13
6. Trip Generation Summary 14
7. Trip Distribution Assumptions 16
8. Existing and Existing plus Project Peak Hour Intersection Levels of Service 16
9. Future and Future plus Project Peak Hour Levels of Service 19

Appendices

A. Collision Rate Calculations
B. Intersection Level of Service Calculations

DRAFT

Executive Summary

The Vineyard Crossing Subdivision would allow for the development of 91 single family dwellings, 32 attached housing units and up to 20 accessary units. If all of the accessary units were developed, the proposed project would generate an average of 1,185 daily trips with 92 trips in the a.m. peak hour and 121 trips in the p.m. peak hour. Nine intersections in the vicinity of the project site were evaluated for safety and operational impacts. While six of the study locations had average collision rates that were higher than the Statewide averages, all had below-average injury rates. The one location with an above-average injury rate had a below-average collision rate. Based on the review performed, it was determined that none of the intersections has an existing safety issue that could be exacerbated by adding project-generated traffic.

All of the study intersections are currently operating acceptably, and are expected to do so upon adding project-generated traffic. Under projected future volumes all of the intersections are expected to operate acceptably, indicating a less-than-significant project impact. The ramp intersections at the US 101/North State Street interchange are expected to experience high delays for stop-controlled movements or excessive queuing, indicating potential need for improvements. Caltrans has previously developed a plan for modifying the lane configurations, but analysis indicates that the improvements proposed would have limited benefit in terms of reducing delays. Instead it is recommended that the County and Caltrans develop a plan for improvements at the ramps on North State Street, including installing traffic signals or roundabouts at both locations, and create a proportional share fee fund to collect contributions from projects as they are proposed and developed.

The intersection of Lovers Lane/KUKI Road was also evaluated for operation during the mid-afternoon school dismissal period and as regards queuing. The project was determined to have a less-than-significant impact as regards both those issues.

Pedestrian and bicycle access to and around the site will be improved through the construction of sidewalks along all project streets and a bike path at the western edge of the project. Access to transit is limited by the distance to the nearest bus stop, so it is recommended that the applicant approach MTA about serving the area and establishing a bus stop near the site if demand warrants it.

Sight distance from the new streets created by the project is adequate for the approach speeds at each location, though it is recommended that 15-mph advisory speeds be installed on the curve to the east of the project site to encourage lower approach speeds. Left-turn pockets are not warranted. Stop signs are recommended on the new side streets only and not on Lovers Lane.

DRAFT

Introduction

This report presents an analysis of the potential traffic impacts that would be associated with development of a proposed subdivision to be located west of US 101 and north of Lovers Lane, just north of the limits of the City of Ukiah in the County of Mendocino. The traffic study was completed in accordance with the criteria established by the County of Mendocino, and is consistent with standard traffic engineering techniques.

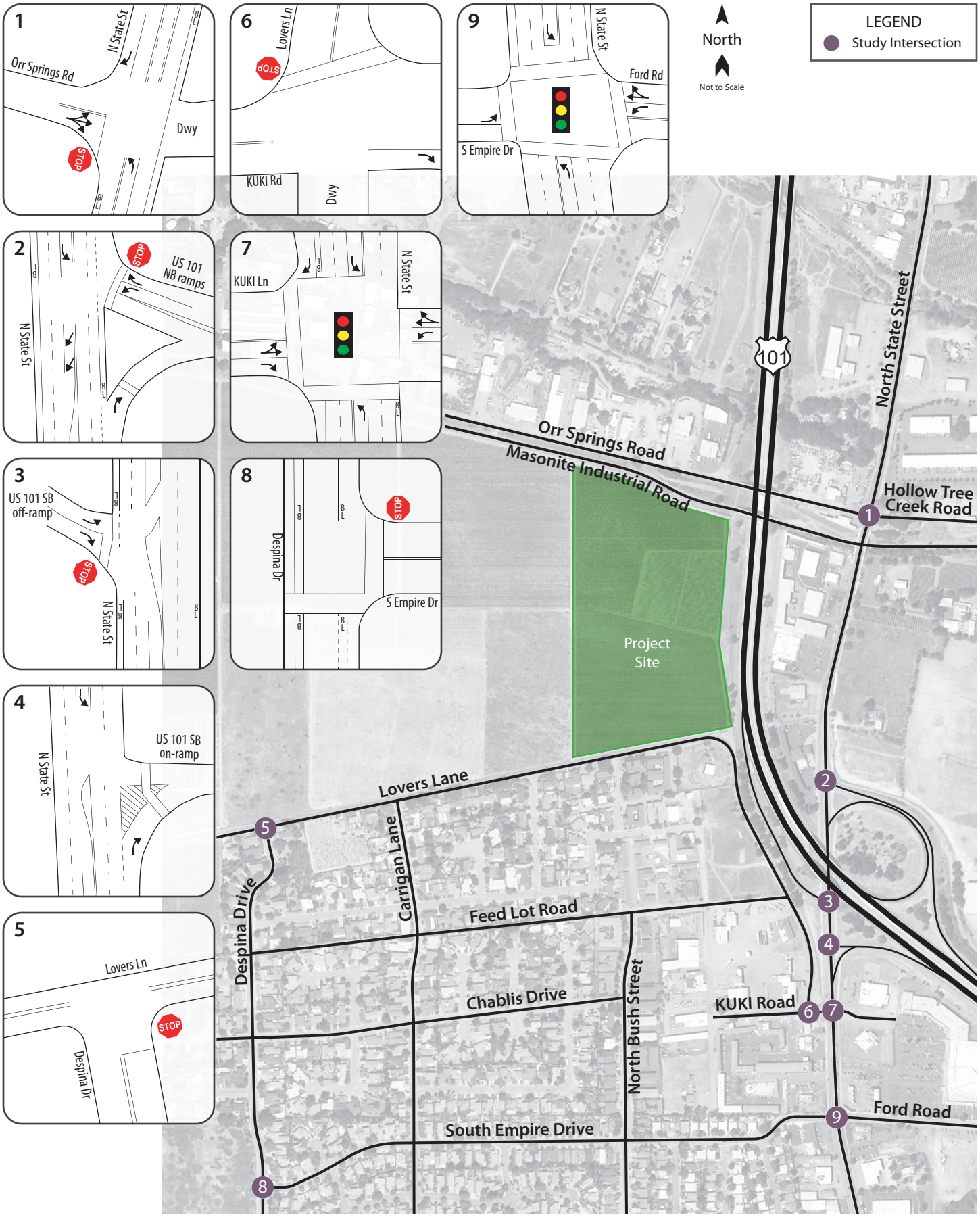
Prelude

The purpose of a traffic impact study is to provide County staff and policy makers with data that they can use to make an informed decision regarding the potential traffic impacts of a proposed project, and any associated improvements that would be required to mitigate these impacts to a level of insignificance as defined by the County's General Plan or other policies. Vehicular traffic impacts are typically evaluated by determining the number of new trips that the proposed use would be expected to generate, distributing these trips to the surrounding street system based on existing travel patterns or anticipated travel patterns specific to the proposed project, then analyzing the impact the new traffic would be expected to have on critical intersections or roadway segments. Impacts relative to access for pedestrians, bicyclists, and to transit are also addressed.

Project Profile

The proposed project is a subdivision that would accommodate 91 new single-family homes comprised of 72 single family residences and 19 alley-access single family residences, up to 20 accessory dwelling units, and 32 attached housing units that would either be duplexes or townhomes, on land that is currently being used for agriculture. The project site is located north of the City of Ukiah, bordered by Lovers Lane south of the project site and Masonite Industrial Road to the north of the project site, as shown in Figure 1.

DRAFT



mex108.ai 8/17

Traffic Impact Study for the Vineyard Crossing Subdivision

Figure 1 – Study Area and Existing Lane Configurations

W-Trans

Transportation Setting

Operational Analysis

Study Area and Periods

The study area includes the project access points as well as the following intersections:

1. North State Street/Orr Springs Road
2. North State Street/US 101 North Ramps
3. North State Street/US 101 South Off-Ramp
4. North State Street/US 101 South On-Ramp
5. Lovers Lane/Despina Drive
6. Lovers Lane/KUKI Road
7. North State Street/KUKI Road
8. South Empire Drive/Despina Drive
9. North State Street/South Empire Drive-Ford Road

Operating conditions during the a.m. and p.m. peak periods were evaluated to capture the highest potential impacts for the proposed project as well as the highest volumes on the local transportation network. The morning peak hour occurs between 7:00 and 9:00 a.m. and reflects conditions during the home to work or school commute, while the p.m. peak hour occurs between 4:00 and 6:00 p.m. and typically reflects the highest level of congestion during the homeward bound commute. Due to potential concerns about operation during the mid-afternoon peak when the nearby high school is dismissed, the intersection of North State Street/KUKI Road was also evaluated for this additional peak period.

Study Intersections

North State Street/Orr Springs Road is an unsignalized tee intersection with stop controls on the eastbound approach.

North State Street/US 101 North Ramps is an unsignalized tee intersection with stop controls on the westbound approach. The east leg, which has a marked crosswalk, serves as the on- and off-ramps to US 101 North.

North State Street/US 101 South Off-Ramp is a tee intersection with stop controls and a marked crosswalk on the eastbound approach, which serves as the US 101 South Off-Ramp.

North State Street/US 101 South On-Ramp is an uncontrolled tee intersection with a marked crosswalk on the east leg, the US 101 South On-Ramp.

Lovers Lane/Despina Drive is an unsignalized tee intersection with stop controls on the northbound approach.

Lovers Lane/KUKI Road is a tee intersection with stop controls on the southbound approach. A marked crosswalk is provided on the north leg.

North State Street/KUKI Road is a four-legged signalized intersection with protected left-turn phasing on the northbound and southbound approaches and permitted left turns on the side-street approaches. The eastbound approach is a driveway for the Raley's shopping center. There are crosswalks provided on the west and south legs.

South Empire Drive/Despina Drive is an unsignalized tee intersection with stop controls on the westbound approach. Marked crosswalks are provided on the south and east legs.

DRAFT

North State Street/South Empire Drive-Ford Road is a four-legged signalized intersection with protected left-turn phasing on each approach.

The locations of the study intersections and the existing lane configurations and controls are shown in Figure 1.

Collision History

The collision history for the study area was reviewed to determine any trends or patterns that may indicate an existing safety issue. Collision rates were calculated based on records available from the California Highway Patrol as published in their Statewide Integrated Traffic Records System (SWITRS) reports. The most current five-year period available is January 1, 2012 through December 31, 2016.

As presented in Table 1, the calculated collision rates for the study intersections were compared to average collision rates for similar facilities statewide, as indicated in *2013 Collision Data on California State Highways*, California Department of Transportation (Caltrans). Seven of the nine study intersections experienced collision rates higher than the statewide average, with the exceptions of the North State Street/Orr Springs Road and North State Street/US 101 South Off-Ramp intersections. Only one location had an injury rate higher than the Statewide average.

The collision rate calculations are provided in Appendix A.

Table 1 – Collision Rates at the Study Intersections

Study Intersection	Number of Collisions (2012-2016)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)	Calculated Injury Rate (%)	Statewide Average Injury Rate (%)
1. N State St/Orr Springs Rd	3	0.12	0.15	**66.7**	41.9
2. N State St/US 101 N Ramps	11	**0.29**	0.18	18.2	36.4
3. N State St/US 101 S Off-Ramp	4	0.10	0.18	25.0	36.4
4. N State St/US 101 S On-Ramp	4	**0.09**	0.06	25.0	38.2
5. Lovers Ln/Despina Dr	0	0.00	0.18	0.0	36.4
6. Lovers Ln/KUKI Rd	2	**0.23**	0.18	0.0	36.4
7. N State St/KUKI Rd	15	**0.42**	0.27	40.0	41.9
8. S Empire Dr/Despina Dr	1	**0.24**	0.18	0.0	36.4
9. N State St/S Empire Dr-Ford Rd	17	**0.41**	0.27	41.2	41.9

Note: c/mve = collisions per million vehicles entering; **Bold** text indicates values higher than the Statewide average.

The most common type of collision that occurred on the freeway ramps were rear-end collisions and collisions with objects, most likely signage posted at the ramps. These collisions were primarily caused by speeding, unsafe starting or backing, or other unsafe movements including improper turning, violating traffic signs, or right-of-way violations. It is noted that both ramp intersections had injury rates that are below the Statewide average, so while the overall number of crashes was slightly above average, the lack of injuries shows that this is not translating into a safety concern.

The intersection of Lovers Lane/KUKI Road experienced a collision rate higher than the statewide average with only two collisions. Both collisions were sideswipe crashes, with one caused by a driver traveling on the wrong

DRAFT

side of the road and the second one caused by unsafe starting or backing. Additionally, because the volumes are relatively low at this intersection, even a low number of crashes would result in an above-average collision rate. Since neither of these crashes resulted in injuries, there is not a safety concern at this intersection.

Similarly, South Empire Drive/Despina Drive experienced an above-average collision rate with just one collision occurring at this intersection within the most recent five-year period. Given the minimal number of collisions at these two locations, there do not appear to be safety concerns despite the above-average collision rates. Again, there were no injuries associated with the single crash, so safety is not an issue at this location.

Collisions at the intersection of North State Street/KUKI Road were primarily rear-end and sideswipe crashes. The majority of rear-end collisions were caused by northbound or southbound vehicles following at an unsafe speed. Sideswipe collisions were primarily caused by unsafe lane changes, also involving vehicles on North State Street. As noted for other intersections, the injury rate at this location was lower than the Statewide average, so despite the collision rate being above-average, that has not resulted in a safety concern.

At the intersection of North State Street/South Empire Drive-Ford Road the majority of collisions were vehicles hitting objects, rear-end crashes, and broadside crashes. There is no clear pattern to determine which objects were being hit, as these types of collisions were experienced on multiple legs. However, there are light poles, signs, and signal poles on each corner of the intersection that were likely hit as vehicles made various turning movements. Rear-end collisions were primarily caused by vehicles traveling northbound or southbound and following too closely. The injury rate was approximately equal to the Statewide average, thought slightly lower, indicating that while the collision rate was above-average, there is not an associated safety problem resulting in injuries.

The one location where the injury rate was above average was North State Street/Orr Springs Road, where two of three crashes resulted in juries. Due to the low number of crashes, the percentage of injuries jumps by more than 33 percent with only one additional injury collision. Given the minimal number of crashes, the sample is too small to be statistically significant. Since the collision rate was lower than the average, despite the above-average injury rate no safety concerns were identified for this location.

Alternative Modes

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, there are no sidewalks within the project area given its rural setting and surrounding agricultural land uses.

Bicycle Facilities

The *Highway Design Manual*, Caltrans, 2012, classifies bikeways into three categories:

- **Class I Multi-Use Path** – a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bike Lane** – a striped and signed lane for one-way bike travel on a street or highway.
- **Class III Bike Route** – signing only for shared use with motor vehicles within the same travel lane on a street or highway.

In the project area, Class II bike lanes exist on North State Street between West Lake Mendocino Drive and South Empire Drive. Class II bike lanes also exist on Despina Drive from Tokay Lane to Low Gap Road, and along North Brush Street from South Empire Drive to Low Gap Road. Future plans include a new Class II bike lane along Empire

Drive, between Despina Drive and North State Street. Table 2 summarizes the existing and planned bicycle facilities in the project vicinity, as contained in the *2012 Mendocino County Regional Bikeway Plan*.

Table 2 – Bicycle Facility Summary

Status Facility	Class	Length (miles)	Begin Point	End Point
Existing				
North State St	II	1.76	West Lake Mendocino Dr	South Empire Dr
Despina Dr*	II	0.41	Tokay Ln	Low Gap Rd
North Brush St*	II	0.57	Despina Dr	North State St
Planned				
Empire Drive*	II	3.00	Despina Dr	North State St
Lovers Lane	III	0.74	Despina Dr	KUKI Rd

Notes: * All or portions of these bikeways are located within the City of Ukiah
Source: *Mendocino County Regional Bikeway Plan*, 2012

Transit Facilities

The Mendocino County Transit Authority (MTA) provides fixed route bus service in Mendocino County. MTA Routes 7, 9, 20 and 75 provide local and regional service within the project area.

Route 7, referred to as the Ukiah Jitney, provides direct connections between north and south Ukiah. Route 7 operates Monday through Friday, with one stop in the a.m. and one in the p.m., in both the northbound and southbound direction. The closest Route 7 stop to the project site is located approximately 0.7 miles south at the intersection of North State Street/Bicarelli Drive.

Route 9 provides service between locations within Ukiah. This route operates Monday through Friday, with approximately one-half hour headways between 6:30 a.m. and 10:00 p.m.

Route 20 provides connections to Willits and Mendocino Community College, with stops along North State Street and North Bush Street. Route 20 operates Monday through Friday with approximately one-hour headways from 7:00 a.m. and 7:00 p.m.

Routes 9 and 20 are served by two bus stops on Feed Lot Road, which is approximately 0.30 miles south of the project site.

Route 75 provides connections from Ukiah to the South Coast. This route runs Monday through Saturday, with one stop in the morning and one in the evening at the stop near North State Street/Bicarelli Drive.

Two bicycles can be carried on most MTA buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on MTA buses at the discretion of the driver.

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. MTA Paratransit is designed to serve the needs of individuals with disabilities within the greater Ukiah area.

DRAFT

Capacity Analysis

Intersection Level of Service Methodologies

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, Level of Service A represents free flow conditions and Level of Service F represents forced flow or breakdown conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation.

The study intersections were analyzed using methodologies published in the *Highway Capacity Manual* (HCM), Transportation Research Board, 2010. This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle.

The Levels of Service for the intersections with side street stop controls, or those which are unsignalized and have one or two approaches stop-controlled, were analyzed using the "Two-Way Stop-Controlled" intersection capacity method from the HCM. This methodology determines a level of service for each minor turning movement by estimating the level of average delay in seconds per vehicle. Results are presented for individual movements together with the weighted overall average delay for the intersection.

The study intersections that are currently controlled by a traffic signal, or may be upgraded to a traffic signal in the future, were evaluated using the signalized methodology from the HCM. This methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. For purposes of this study, delays were calculated using optimized traffic signal timing.

The ranges of delay associated with the various levels of service are indicated in Table 3.

Table 3 – Intersection Level of Service Criteria

LOS	Two-Way Stop-Controlled	Signalized
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
C	Delay of 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.

Reference: *Highway Capacity Manual,* Transportation Research Board, 2010

DRAFT

Traffic Operation Standards

County of Mendocino

The County of Mendocino considers LOS D operation at signalized intersections to be the poorest acceptable operation during peak periods. For unsignalized intersections with stop controls on the side street, only the County does not have an adopted operational standard. For the purposes of this study, the following standard was applied to the study intersections under the County's jurisdiction.

On some arterial streets, it is typical to have all the side street approaches operating at LOS E or F with long traffic delays, even where side street volumes are very low. In fact, it may be operationally, physically, and/or financially infeasible to provide mitigation that would allow LOS D or better operation for all side streets during peak hours. The most typical mitigation measure used to improve operation for the side street is a traffic signal, and it is both operationally and financially undesirable to provide a traffic signal at every intersection along most street segments. For these reasons, mitigation measures were considered only when LOS F conditions were projected for minor movements at unsignalized intersections and overall operation of the intersection fell below LOS C.

Caltrans

Caltrans indicates that they endeavor to maintain operation at the transition from LOS C to LOS D. Based on previous discussions with Caltrans staff, it is understood that the standard is to be applied to the overall average intersection delay, and *not* that associated with any single movement or approach. Under this approach, if one movement experiences very high delay and also has moderate to high traffic volumes, the overall delay and level of service should reflect the critical nature of the condition. However, if one movement is expected to experience high delay, but has very low traffic volumes, the overall intersection operation will likely still meet Caltrans standards.

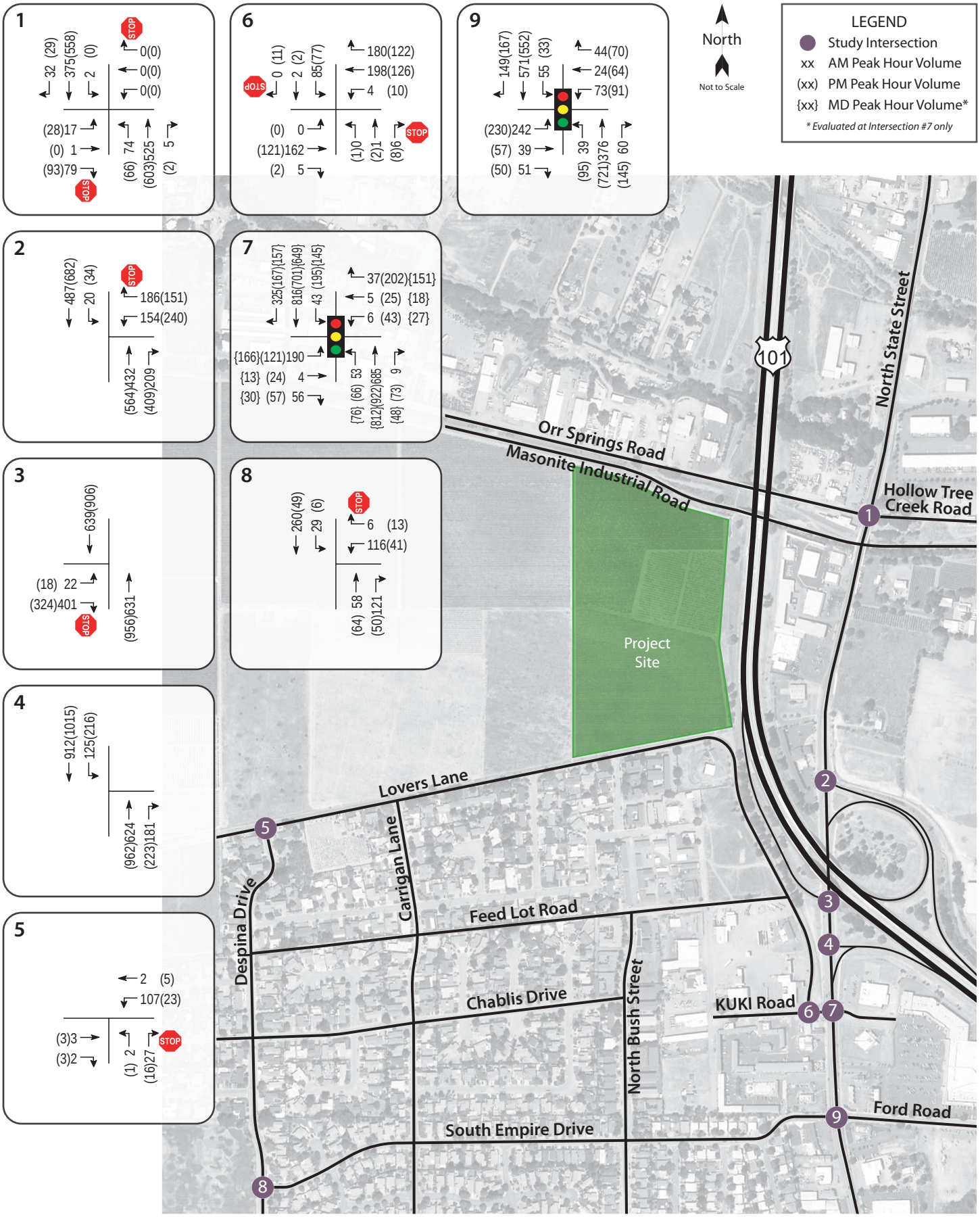
Existing Conditions

The Existing Conditions scenario provides an evaluation of current operation based on existing traffic volumes during the a.m. and p.m. peak periods. This condition does not include project-generated traffic volumes. Volume data was collected March 2017 at the intersections of Lovers Lane/Despina Drive, Lovers Lane/KUKI Road, and South Empire Drive/Despina Drive. Counts at the remaining intersections were collected in June 2016.

Intersection Levels of Service

Under existing conditions, all study intersections are operating acceptably at LOS C or better overall. The existing traffic volumes are shown in Figure 2. A summary of the intersection level of service calculations is contained in Table 4, and copies of the Level of Service calculations are provided in Appendix B.

DRAFT



mex108.ai 8/17

Traffic Impact Study for the Vineyard Crossing Subdivision

Figure 2 – Existing Traffic Volumes

W-Trans

Table 4 – Existing Peak Hour Intersection Levels of Service				
Study Intersection ***Approach***	**AM Peak**		**PM Peak**	
	Delay	**LOS**	**Delay**	**LOS**
1. N State St/Orr Springs Rd	1.7	A	1.8	A
Eastbound (Orr Springs Rd) Approach	*13.1*	*B*	*15.6*	*C*
2. N State St/US 101 N Ramps	3.2	A	5.2	A
Westbound (US 101 N Off-ramp) Approach	*13.5*	*B*	*26.5*	*D*
3. N State St/US 101 S Off-ramp	5.9	A	4.6	A
Eastbound (US 101 S Off-ramp) Approach	*23.8*	*C*	*29.4*	*D*
4. N State St/US 101 S On-ramp	0.8	A	1.7	A
5. Lovers Ln/Despina Dr	7.3	A	6.2	A
Northbound (Despina Dr) Approach	*8.6*	*A*	*8.9*	A
6. Lovers Ln/KUKI Rd	2.2	A	2.3	A
Southbound (Lovers Ln) Approach	*15.1*	*C*	*12.4*	*B*
7. N State St/KUKI Rd	10.8	B	16.2	B
8. S Empire Dr/Despina Dr	3.3	A	2.5	A
Westbound (S Empire Dr) Approach	*14.2*	*B*	*9.6*	*A*
9. N State St/S Empire Dr-Ford Rd	23.0	C	26.9	C

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

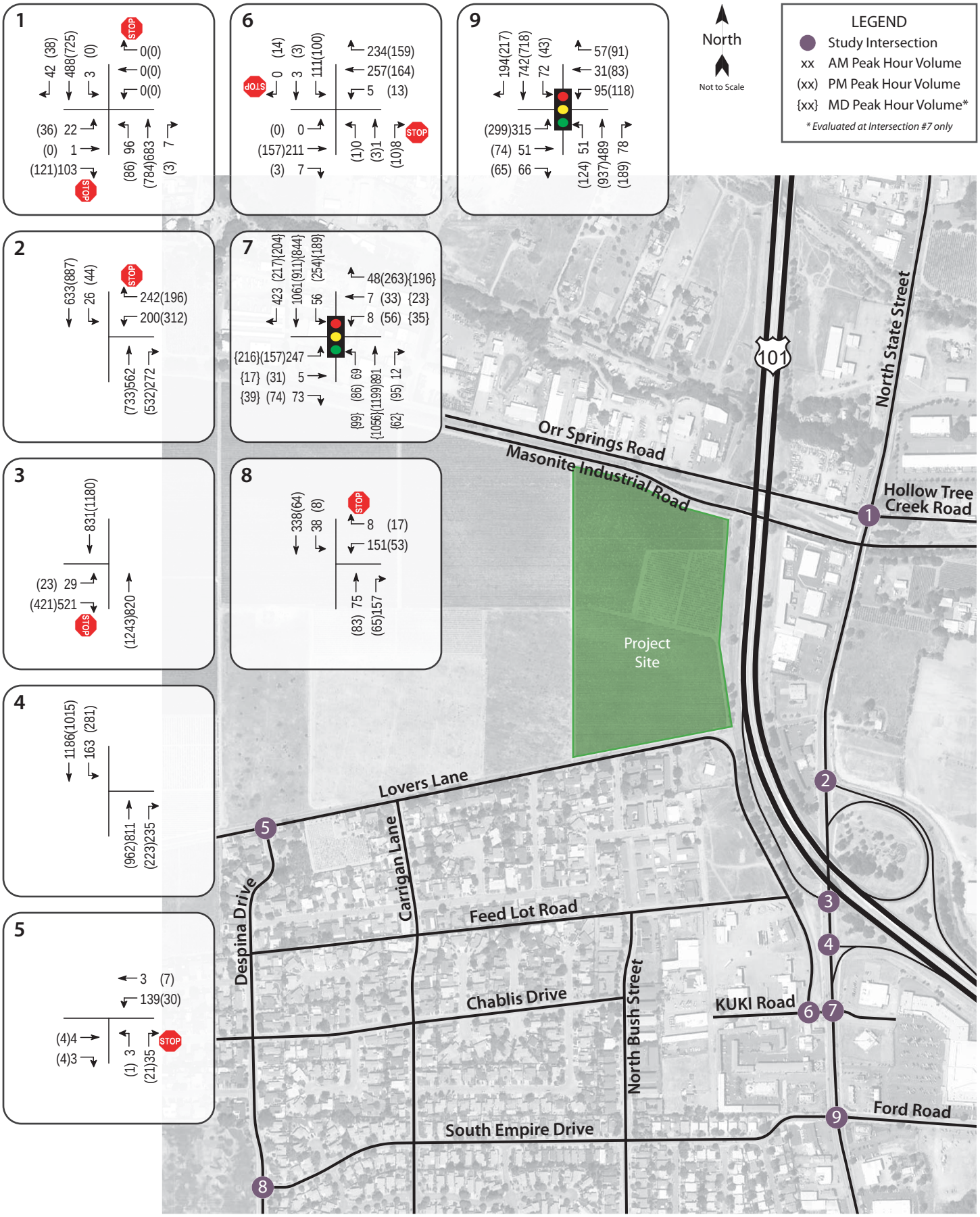
North State Street/KUKI Road Mid-Afternoon Peak Hour

It is understood that Lovers Lane is used by traffic leaving the high school, resulting in some congestion at North State Street/KUKI Road during the mid-afternoon dismissal peak. Counts were taken at this intersection during the mid-afternoon peak and it was determined that North State Street/KUKI Road is operating acceptably at LOS B with an average of 16.5 seconds of delay during the mid-afternoon peak period.

Future Conditions

Future traffic volumes on US 101 were estimated using the Caltrans District I growth factors. This data indicates a 20-year growth factor of 1.30 for US 101 in the Ukiah area. This growth factor was applied to all movements at all study intersections, though it is noted that many movements would likely experience a lesser increase due to limited potential for development in some areas. Under these projected Future volumes, and assuming no changes to their geometrics or controls, the study intersections are expected to operate acceptably at LOS C or better overall during both peak periods. Delays indicating LOS E or F operation are expected on the stop-controlled approaches at North State Street/US 101 North Ramps during the p.m. peak hour, and during both peak periods at North State Street/US 101 South Off-Ramp. Future volumes are shown in Figure 3 and operating conditions are summarized in Table 5.

DRAFT



mex108.ai 8/17

Traffic Impact Study for the Vineyard Crossing Subdivision

Figure 3 – Future Traffic Volumes

W-Trans

Table 5 – Future Peak Hour Intersection Levels of Service				
Study Intersection	**AM Peak**		**PM Peak**	
Approach	**Delay**	**LOS**	**Delay**	**LOS**
1. N State St/Orr Springs Rd	1.7	A	2.2	A
Eastbound (Orr Springs Rd) Approach	*14.2*	*B*	*19.8*	*C*
2. N State St/US 101 N Ramps	3.9	A	10.9	B
Westbound (US 101 N Off-Ramp) Approach	*16.3*	*C*	***56.7***	***F***
Improvement: Caltrans Ramp Improvements	4.9	A	10.6	B
Westbound (US 101 N Ramp) Approach	*21.0*	*C*	***55.7***	***F***
Improvement: Signal	8.3	A	10.6	B
3. N State St/US 101 S Off-Ramp	10.4	B	9.5	A
Eastbound (US 101 S Off-Ramp) Approach	***41.5***	***E***	***61.6***	***F***
Improvement: Caltrans Ramp Improvements	10.4	B	9.5	A
Eastbound (US 101 S Ramp) Approach	***41.5***	***E***	***61.6***	***F***
Improvement: Signal	10.0	B	10.2	B
4. N State St/US 101 S On-Ramp	0.9	A	2.1	A
5. Lovers Ln/Despina Dr	7.3	A	6.0	A
Northbound (Despina Dr) Approach	*8.7*	A	*8.4*	*A*
6. Lovers Ln/KUKI Rd	2.5	A	2.9	A
Southbound (Lovers Ln) Approach	*17.4*	*C*	*13.5*	*B*
7. N State St/KUKI Rd	12.0	B	28.1	C
8. S Empire Dr/Despina Dr	*3.7*	*A*	2.8	A
Westbound (S Empire Dr) Approach	*16.2*	C	*9.8*	A
9. N State St/S Empire Dr-Ford Rd	24.8	C	33.1	C

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* **Bold** text = deficient operation; Shaded cells = conditions with recommended improvements

In 2008, Caltrans released plans for proposed improvements at the US 101/North Sate Street interchange in their report, *Ukiah Ramps Improvements on State Route 101 in Mendocino County*. The improvements at the northbound ramps include adding a channelized right turn on the westbound off-ramp approach, reducing northbound North State Street from two through lanes to one, removing the center two-way left-turn lane, and providing a left-turn lane on the southbound approach. At the southbound off-ramp, a channelized right turn would be installed on the eastbound off-ramp approach. The County has expressed interest in pursuing these improvements and therefore they were analyzed as a potential means of achieving lower delays on the stop-controlled movements under Future conditions. However, the channelized right turns would create additional conflicts with bicyclists traveling the corridor as bicyclists traveling through these intersections would be in conflict with vehicles merging into the through lane as they exit the channelized right turn. Additionally, as shown in Table 5, the implementation of these plans would only be expected to nominally change delay on the westbound north off-ramp approach and remain the same for the eastbound approach at the US 101 South off-ramp.

In order to achieve an acceptable level of service in the Future, it is recommended that North State Street/US 101 North Ramps and North State Street/US 101 South Off-Ramp are signalized. These intersections would operate at LOS A or B during both peak periods with the installation of a signal. The County and Caltrans should develop a

DRAFT

plan for improvements at the ramps on North State Street and create a proportional share fee fund to collect contributions from projects as they are proposed and developed.

North State Street/KUKI Road Mid-Afternoon Peak Hour

Under future conditions, the intersection of North State Street/KUKI Road is expected to operate acceptably at LOS C with 21.2 seconds of delay.

Project Description

The proposed project is a subdivision to allow construction of 91 single family homes (comprised of 72 single family homes and 19 alley-access single family homes), up to 20 accessory dwelling units, and 32 attached housing units that would either be duplexes or townhomes on land that is currently farmed. The site would be accessed via two new driveways on Lovers Lane.

The proposed project site plan is shown in Figure 4.

Trip Generation

The anticipated trip generation for the proposed project was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 9th Edition, 2012 for single family detached dwellings (ITE LU #210), while apartment trip rates were used for the secondary units (ITE LU #220) and trip rates for residential condominium/townhomes were used for the proposed attached housing (ITE LU #230). Based on application of these standard rates, the proposed project is expected to generate an average of 1,185 trips per day, including 92 a.m. peak hour trips and 120 trips during the p.m. peak hour. These results are summarized in Table 6.

Table 6 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Single Family Dwelling	91	9.52	866	0.75	68	17	51	1.00	91	57	34
Accessory Dwelling Units	20	6.65	133	0.51	10	2	8	0.62	12	8	4
Attached Housing	32	5.81	186	0.44	14	2	12	0.52	17	11	6
Total			**1,185**		**92**	**21**	**71**		**120**	**76**	**44**

Note: du = dwelling unit

Trip Distribution

The pattern used to allocate new project trips to the street network was determined by reviewing employment patterns for residents of Ukiah. Based on the applied assumptions shown in Table 7, the following distribution assumptions are proposed.

DRAFT

Source: Rolls Anderson & Rolls 11/16

mex108.ai 8/17

Traffic Impact Study for the Vineyard Crossing Subdivision

Figure 4 – Site Plan

W-Trans

Table 7 – Trip Distribution Assumptions				
Route	**Percent**	**Daily Trips**	**AM Trips**	**PM Trips**
N State St south of N Bush St	50%	592	46	60
US 101 to the north of Ukiah	25%	296	23	30
N State St north of US 101	10%	119	9	12
S Empire Dr west of N Bush St	10%	119	9	12
US 101 to the south of Ukiah	5%	59	5	6
TOTAL	**100%**	**1,185**	**92**	**120**

Intersection Operation

Existing plus Project Conditions

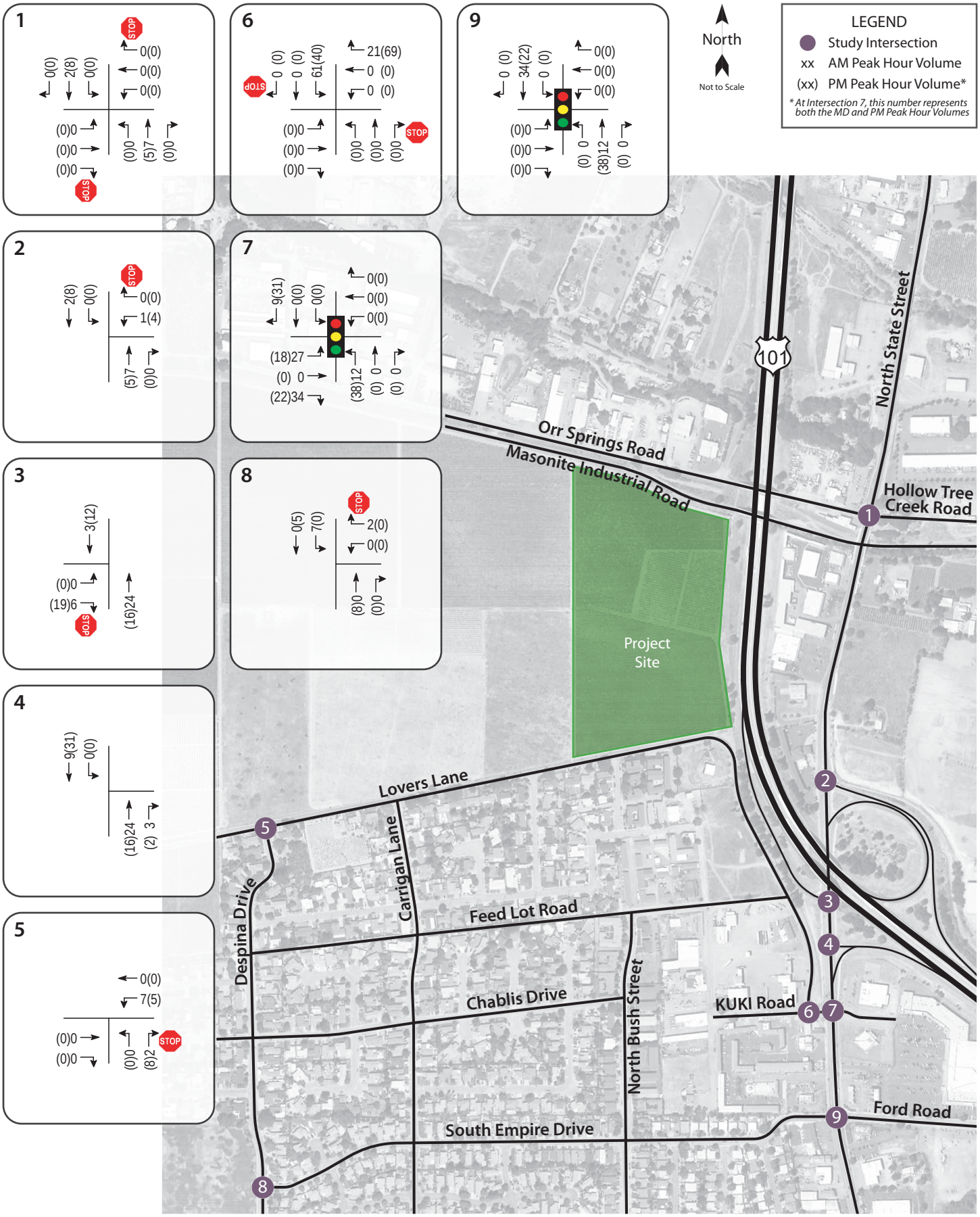
Upon the addition of project-related traffic to the Existing volumes, the study intersections are expected to continue operating acceptably. These results are summarized in Table 8. Project traffic volumes are shown in Figure 5.

Table 8 – Existing and Existing plus Project Peak Hour Intersection Levels of Service

Study Intersection	**Existing Conditions**				**Existing plus Project**			
Approach	**AM Peak**		**PM Peak**		**AM Peak**		**PM Peak**	
	Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
1. N State St/Orr Springs Rd	1.7	A	1.8	A	1.7	A	1.8	A
Eastbound (Orr Springs Rd) Approach	*13.1*	*B*	*15.6*	*C*	*13.1*	*B*	*15.8*	*C*
2. N State St/US 101 N Ramps	3.2	A	5.2	A	3.2	A	5.9	A
Westbound (US 101 N Off-Ramp) Approach	*13.5*	*B*	*26.5*	*D*	*13.6*	*B*	*27.6*	*D*
3. N State St/US 101 S Off-Ramp	5.9	A	4.6	A	6.1	A	5.2	A
Eastbound (US 101 S Off-Ramp) Approach	*23.8*	*C*	*29.4*	*D*	*24.5*	*C*	*32.7*	*D*
4. N State St/US 101 S On-Ramp	0.8	A	1.7	A	0.8	A	1.7	A
5. Lovers Ln/Despina Dr	7.3	A	6.2	A	7.4	A	6.7	A
Northbound (Despina Dr) Approach	*8.6*	*A*	*8.9*	A	*8.6*	*A*	*8.5*	*A*
6. Lovers Ln/KUKI Rd	2.2	A	2.3	A	3.8	A	3.4	A
Southbound (Lovers Ln) Approach	*15.1*	*C*	*12.4*	*B*	*17.9*	*C*	*14.0*	B
7. N State St/KUKI Rd	10.8	B	16.2	B	11.8	B	18.3	B
8. S Empire Dr/Despina Dr	3.3	A	2.5	A	3.3	A	2.4	A
Westbound (S Empire Dr) Approach	*14.2*	*B*	*9.6*	*A*	*14.5*	*B*	*9.7*	*A*
9. N State St/S Empire Dr-Ford Rd	23.0	C	26.9	C	22.8	C	26.8	C

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

DRAFT



mex108.ai 8/17

Traffic Impact Study for the Vineyard Crossing Subdivision

Figure 5 – Project Traffic Volumes

W-Trans

It should be noted that with the addition of project-related traffic volumes, average delay at the intersections of South Empire Drive/Despina Drive and North State Street/South Empire Drive-Ford Road decreases during the p.m. peak hour. While this is counter-intuitive, this condition occurs when a project adds trips to movements that are currently underutilized or have delays that are below the intersection average, resulting in a better balance between approaches and lower overall average delay. The project adds traffic predominantly to the through movement, which has an average delay that is lower than the average for the intersection as a whole, resulting in a slight reduction in the overall average delay. The conclusion could incorrectly be drawn that the project improves operation based on this data alone; however, it is more appropriate to conclude that the project trips are expected to make use of excess capacity, so drivers would experience little, if any, change in conditions as a result of the project.

North State Street/KUKI Road Mid-Afternoon Peak Hour

The two public schools that residents' children would likely attend are Ukiah High School, located on Despina Drive, and Frank Zeek Elementary School on North Bush Street. Residents of the proposed project would likely access Ukiah High School via Lovers Land and Despina Drive, and therefore would be unlikely to add new trips to the North State Street/KUKI Road intersection during the mid-afternoon peak. The same reasoning can be applied to Frank Zeek Elementary School, as trips would likely be dispersed amongst multiple routes, either on Despina Drive or through local neighborhood streets, with some traveling through North State Street/KUKI Road. However, to determine how North State Street/KUKI Road would operate with the addition of new trips during the mid-afternoon school peak, all p.m. project trips were added to the intersection, and under these conservative assumptions the intersection is expected to operate acceptably at LOS B with 17.8 seconds of delay, 1.3 seconds higher than Existing conditions. Therefore, with the lower number of project trips that would actually be expected to be added to this analysis scenario, the proposed project would have minimal impact to operation of North State Street/KUKI Road during the mid-afternoon peak hour.

Finding – The study intersections are expected to continue operating acceptably at the same levels of service upon the addition of project-generated traffic to Existing volumes.

Future plus Project Conditions

Upon the addition of project-generated traffic to the anticipated Future volumes, the study intersections are expected to continue operating acceptably overall. Delays indicating LOS E or F operation are expected to increase on the stop-controlled approach at North State Street/US 101 North Ramps during the p.m. peak hour, and during both peak periods at North State Street/US 101 South Off-Ramp. The Future plus Project operating conditions are summarized in Table 9.

DRAFT

Table 9 – Future and Future plus Project Peak Hour Levels of Service								
Study Intersection ***Approach***	**Future Conditions**				**Future plus Project**			
	AM Peak		**PM Peak**		**AM Peak**		**PM Peak**	
	Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
1. N State St/Orr Springs Rd	1.7	A	2.2	A	1.9	A	2.2	A
Eastbound (Orr Springs Rd) Approach	*14.2*	*B*	*19.8*	*C*	*14.5*	*B*	*20.0*	*C*
2. N State St/US 101 N Ramps	3.9	A	10.9	B	3.9	A	11.5	B
Westbound (US 101 N Off-Ramp) Approach	*16.3*	*C*	***53.3***	***F***	*16.5*	*C*	***60.2***	***F***
Improvement: Caltrans Ramp Improvements	4.9	A	10.6	B	5.0	A	11.4	B
Westbound (US 101 N Ramp) Approach	*21.0*	*C*	***55.7***	***F***	*21.3*	*C*	***59.3***	***F***
3. N State St/US 101 S Off-Ramp	10.4	B	9.5	A	10.8	B	11.5	B
Eastbound (US 101 S Off-Ramp) Approach	***41.5***	***E***	***61.6***	***F***	***43.3***	***E***	***72.5***	***F***
Improvement: Caltrans Ramp Improvements	10.4	B	9.5	A	10.8	B	11.5	B
Eastbound (US 101 S Ramp Approach)	***41.5***	***E***	**61.6**	**F**	***43.3***	***E***	***72.5***	***F***
4. N State St/US 101 S On-Ramp	0.9	A	2.1	A	0.9	A	2.6	A
5. Lovers Ln/Despina Dr	7.3	A	6.0	A	7.3	A	6.4	A
Northbound (Despina Dr) Approach	*8.7*	A	*8.4*	*A*	8.7	A	*8.5*	*A*
6. Lovers Ln/KUKI Rd	2.5	A	2.9	A	4.1	*A*	3.6	A
Southbound (Lovers Ln) Approach	*17.4*	*C*	*13.5*	*B*	*21.0*	*C*	*15.2*	*C*
7. N State St/KUKI Rd	12.0	B	28.1	C	13.0	B	30.1	C
8. S Empire Dr/Despina Dr	3.7	A	2.8	A	3.7	A	2.5	A
Westbound (S Empire Dr) Approach	*16.2*	C	*9.8*	A	*16.4*	C	*9.9*	*A*
9. N State St/S Empire Dr-Ford Rd	24.8	C	33.1	C	24.7	C	33.2	C

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* ** = delay greater than 120 seconds; **Bold** text = deficient operation; Shaded cells = conditions with recommended improvements

As noted under Existing plus Project conditions, overall delay at South Empire Drive/Despina Drive decreases with the addition of project generated trips as project-trips are primarily added to the through movement, which has an average delay that is lower than the average for the intersection as a whole, resulting in a slight reduction in the overall average delay.

North State Street/KUKI Road Mid-Afternoon Peak Hour

As stated under Existing plus Project conditions, school traffic generated by the proposed project would likely be dispersed on multiple routes and many trips would return to the subdivision without ever entering North State Street, resulting in minimal impact to the operation of the intersection during the mid-afternoon peak. However, for a conservative analysis, the intersection was analyzed during this period with the addition of p.m. peak trips.

Under Future conditions, with p.m. peak trips added to the intersection of North State Street/KUKI Road during the mid-afternoon peak hour, the intersection would operate at LOS C, with 25.3 seconds of delay, 4.1 seconds higher than under Future conditions.

DRAFT

Finding – The study intersections would continue operating acceptably overall with project traffic added, at the same Levels of Service as without it. The side-street ramp approaches at North State Street/US 101 North Ramps and North State Street/US 101 South Off-Ramp are expected to continue to operate with high delays with the addition of project-generated trips, as it does without it, though overall operation would remain acceptable under the Caltrans standards of significance applicable to these locations. The ramp intersections are also expected to continue operating with high delays on the stop-controlled ramp approaches with the improvements proposed by Caltrans.

Vehicle Miles Traveled

The project's VMT was assessed using trip length estimates for the Ukiah Transportation Analysis Zone (TAZ) as contained in the statewide model. VMT for residential land uses was calculated by multiplying the average household size in Ukiah by the number of housing units and the home-based VMT estimates for residential land uses in Ukiah. According to the 2010 US Census, the average household size in Ukiah is 2.64 people per household. Based on the TAZ, residents are expected to travel 2.62 miles per day. Based on these factors, the estimated VMT for the proposed project is 836 miles. There are currently no standards of significance against which to evaluate this estimate. Additionally, the County of Mendocino does not have a regional model to provide a comparison of VMT with or without the proposed project. Therefore, the VMT estimate is provided for informational purposes only.

Queuing

The projected 95th percentile queues for the eastbound through/left-turn approach to North State Street/KUKI Road were determined for the a.m. and p.m. future plus project scenarios as these would reflect the highest volume scenarios.

During the a.m. peak hour, 95th percentile queues are expected to reach 121 feet, equivalent to approximately five vehicles. During the p.m. peak hour, 95th percentile queues are expected to reach 176 feet, which equates to approximately seven vehicles. This queue would extend past the intersection of Lovers Lane/KUKI Road during both peak periods by approximately one to three cars.

Storage at the southbound left-turn lane at Lovers Lane/KUKI Road was evaluated using a methodology contained in "Re-validating and Improving Queue Length Models at Two-Way Stop Controlled Intersections," Transportation Planning and Analysis Unit, Transportation Development Division, Oregon Department of Transportation, December 2013. At the intersection of Lovers Lane/KUKI Road, southbound left-turning vehicle queues would be approximately six vehicles during the a.m. peak hour and five vehicles during the p.m. peak hour. Though the eastbound through/left-turn queue is expected to extend past the entrance to Lovers Lanes at times, the signal provides gaps in traffic and an opportunity for drivers to turn left out of Lovers Lane.

Finding – While queuing at Lovers Lane/KUKI Road is expected to extend past the intersection of Lovers Lane/KUKI Road, the signal would provide gaps in traffic that would provide opportunities for queued vehicles on Lovers Lane to turn left out of Lovers Lane.

DRAFT

Alternative Modes

Pedestrian Facilities

The proposed project site plan does not indicate the provision of sidewalks along the project frontage. Despite the rural nature of Lovers Lane and the project area, residents are likely to expect sidewalks in a residential subdivision, so this amenity should be included. The site is within walking distance of local schools and some retail establishments, and residents may wish to travel by walking to these destinations. The proposed project includes plans to provide sidewalk on the new streets within the proposed subdivision, and should provide sidewalk along Lovers Lane as well.

Finding – Pedestrian facilities serving the project site are not adequate, though sidewalks are proposed on the new streets within the proposed subdivision.

Recommendation – Sidewalk should be provided along the site's frontage on Lovers Lane.

Bicycle Facilities

Existing bicycle facilities, including bike lanes on streets, together with shared use of minor streets provide adequate access for bicyclists. Although not shown on the plan, it is understood that the project plans also include a new Class I bike path along the western edge of the project site.

Finding – Bicycle facilities serving the project site are adequate.

Transit

Existing transit routes are adequate to accommodate project-generated transit trips. Existing stops are not within acceptable walking distance of the site.

Finding – Transit facilities serving the project site are inadequate.

Recommendation – The project applicant should request that MTA establish bus stops closer to the project site to serve its residents if there is demand for this service.

DRAFT

Access and Circulation

Site Access

The proposed subdivision would be accessed via two new public streets referred to as "Street A" and "Street E" on the proposed site plan; both would intersect Lovers Lane on the north side.

Sight Distance

Sight distance along Lovers Lane at the proposed location of Street A and Street E was evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. The recommended sight distance at intersections of public streets is based on corner sight distance, with approach travel speeds as the basis for determining the recommended sight distance. For an approach speed of 25 miles per hour (mph), the recommended corner sight distance is 275 feet.

Street A is the easterly access point to the proposed subdivision, just west of the curve on Lovers Lane. Sight lines are clear for 270 feet to the east of Street A looking toward the curve, which is just below the required sight distance for a 25-mph approach. Since vehicles traveling westbound exiting the curve would generally be traveling slower, 270 feet would provide adequate sight lines. However, a 15-mph speed advisory sign should be installed in both directions at the point that Lovers Lane begins to curve, east of the intersection of Lovers Lane/Street A, to ensure adequate sight distance is achieved. Per the *California Manual on Uniform Traffic Control Devices* (CA-MUTCD), the advisory signs are designated as a W1-1aL and W1-1aR.

To the west of the Street A connection, Lovers Lane is straight with no anticipated barriers to the line of sight. At the second more westerly access point, Street E, sight distance is adequate both east and west of the street entrance.

Access Analysis

Turn Lane Warrants

The need for turn lanes on Lovers Lane at the new public street access points were evaluated based on criteria contained in the *Intersection Channelization Design Guide*, National Cooperative Highway Research Program (NCHRP) Report No. 279, Transportation Research Board, 1985, as well as a more recent update of the methodology developed by the Washington State Department of Transportation. The NCHRP report references a methodology developed by M. D. Harmelink that includes equations that can be applied to expected or actual traffic volumes to determine the need for a left-turn pocket based on safety issues. Using p.m. peak hour Existing plus Project and Future plus Project volumes, left-turn lanes are not warranted on Lovers Lane at Street A or Street E.

The need for a right-turn lane or taper was evaluated for both new Street A and Street E. Using the same criteria contained in the *Intersection Channelization Design Guide*, the warrants were evaluated using the p.m. peak hour Existing and Future plus Project volumes. Based on these assumptions, no additional facilities in the form of either a right-turn lane or right-turn taper would be warranted.

All-way Stop Control Warrants

All-way Stop Warrants (For residential streets)

Warrants for all-way stop controlled intersections are typically based on guidelines contained in the CA-MUTCD. However, these guidelines generally apply to arterial and collector streets but do not adequately address the

DRAFT

needs of residential streets. Guidelines were suggested in *WesternITE*, January 1999, for use with neighborhood streets based on a survey of Bay Area jurisdictions. These guidelines include the following issues in considering need for all-way stop controls.

- Excessive volume
- High number of collisions
- Limited visibility
- Excessive speeds
- Crossing residential collectors
- Residential frontage

An intersection meeting two of the criteria is considered a candidate for an all-way stop sign installation.

Based on volumes collected along Lovers Lane as well as consideration of other existing conditions and proposed improvements, the new intersections at Lovers Lane do not meet any of the criteria that would warrant all-way-stop controls. However, stop controls should be provided at the terminus of Street A and Street E, where the streets intersect Lovers Lane, to control traffic exiting the project site.

DRAFT

Conclusions and Recommendations

Conclusions

- The proposed project would generate an average of 1,185 daily trips with 92 trips in the a.m. peak hour and 121 trips in the p.m. peak hour.
- While most of the study intersections had above-average collision or injury rates, no location had above-average rates for both and no specific safety issues were identified. The addition of project-generated traffic is therefore expected to have no measurable impact on safety.
- All nine study intersections are currently operating acceptably at LOS C or better overall. With the addition of project-generated trips, all are expected to continue operating acceptably.
- Under future conditions, and upon adding project-generated trips, all study intersections are expected to continue operating acceptably at LOS C or better overall though with long delays on the stop-controlled off-ramp approaches from US 101 to North State Street.
- The intersection of North State Street/KUKI Road is currently operating acceptably under Existing mid-afternoon peak conditions and would be expected to continue operating acceptably under Future mid-afternoon peak conditions. With the p.m. peak hour project-generated trips applied, the intersection would continue to operate acceptably under Existing plus Project and Future plus Project conditions. However, project-generated trips during this peak hour would be expected to be much lower than the p.m. peak hour trips and therefore have a minimal impact on the intersection.
- The improvements identified by Caltrans in 2008 for the US 101/North State Street interchange are not expected to provide sufficient capacity to improve operation over that with the current geometrics. Further, the planned geometrics create conflicts between pedestrians and vehicular traffic where bike lanes intersect right-turn lanes.
- Sidewalk facilities to be provided as part of the project together with the provision of a bike path along the western edge of the subdivision will result in adequate facilities for pedestrians and bicyclists. Transit access is not as convenient as would be desired, but is available.
- Sight distance from Street A, to the east, looking toward the curve on Lovers Lane, falls just below the required sight distance for a 25-mph approach, but given the proximity of a curve, is sufficient for the approach speeds experienced at this location.
- Left-turn pockets are not warranted on Lovers Lane at the entrances to the proposed project site.

Recommendations

- The applicant should approach MTA and request that a more convenient bus stop be provided if demand for service justifies it.
- A 15-mph speed advisory sign should be installed in both directions at the point that Lovers Lane begins to curve, east of the intersection of Lovers Lane/Street A.
- The new intersections along Lovers Lane created by Street A and Street E should be stop-controlled on the new approaches.

DRAFT

Study Participants and References

Study Participants

Principal in Charge	Dalene J. Whitlock, PE, PTOE
Assistant Planner	Shannon Baker
Graphics/Editing/Formatting	Angela McCoy
Report Review	Dalene J. Whitlock, PE, PTOE

References

2012 Mendocino County Regional Bikeway Plan: A Capital Improvement Program of Commuter Bikeways in the Mendocino County Region, Dow & Associates, 2012

2013 Collision Data on California State Highways, California Department of Transportation, 2016

California Manual on Uniform Traffic Control Devices for Streets and Highways, California Department of Transportation, 2014

Guide for the Preparation of Traffic Impact Studies, California Department of Transportation, 2002

Highway Capacity Manual, Transportation Research Board, 2010

Highway Design Manual, 6th Edition, California Department of Transportation, 2012

Intersection Channelization Design Guide, National Cooperative Highway Research Program (NCHRP) Report No. 279, Transportation Research Board, 1985

Mendocino County Code, Municipal Code Corporation, 2017

Mendocino County General Plan, PMC, 2009

Mendocino Transit Authority, http://mendocinotransit.org/

Re-validating and Improving Queue Length Models at Two-Way Stop Controlled Intersections, Transportation Planning and Analysis Unit, Transportation Development Division, Oregon Department of Transportation, 2013

Statewide Integrated Traffic Records System (SWITRS), California Highway Patrol, 2012-2016

Trip Generation Manual, 9th Edition, Institute of Transportation Engineers, 2012

Ukiah Ramps Improvement Project on State Route 101 in Mendocino County, California Department of Transportation, 2008

United States Census Bureau, http://www.census.gov/

WesternITE, Institute of Transportation Engineers District 6, January 1999

MEX108

DRAFT

Appendix A

Collision Rate Calculations

DRAFT

Intersection Collision Rate Calculations

Vineyard Crossing Project

Intersection # 1: North State Street & Orr Springs Road

Date of Count: Thursday, March 02, 2017

Number of Collisions: 3
Number of Injuries: 2
Number of Fatalities: 0
ADT: 13800
Start Date: January 1, 2012
End Date: December 31, 2016
Number of Years: 5

Intersection Type: Four-Legged
Control Type: Stop & Yield Controls
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{3 \times 1{,}000{,}000}{13{,}800 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.12 c/mve**	**0.0%**	**66.7%**
Statewide Average*	**0.15 c/mve**	**1.0%**	**41.9%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection # 2: North State Street & US 101 North Ramps

Date of Count: Thursday, March 02, 2017

Number of Collisions: 11
Number of Injuries: 2
Number of Fatalities: 0
ADT: 21000
Start Date: January 1, 2012
End Date: December 31, 2016
Number of Years: 5

Intersection Type: Tee
Control Type: Stop & Yield Controls
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{11 \times 1{,}000{,}000}{21{,}000 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.29 c/mve**	**0.0%**	**18.2%**
Statewide Average*	**0.18 c/mve**	**0.7%**	**36.4%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection Collision Rate Calculaions

Vineyard Crossing Project

Intersection # 3: North State Street & US 101 South Off-Ramps

Date of Count: Thursday, March 02, 2017

Number of Collisions: 4
Number of Injuries: 1
Number of Fatalities: 0
ADT: 22100
Start Date: January 1, 2012
End Date: December 31, 2016
Number of Years: 5

Intersection Type: Tee
Control Type: Stop & Yield Controls
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{4 \times 1{,}000{,}000}{22{,}100 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.10 c/mve**	**0.0%**	**25.0%**
Statewide Average*	**0.18 c/mve**	**0.7%**	**36.4%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection # 4: North State Street & US 101 South On-Ramp

Date of Count: Thursday, March 02, 2017

Number of Collisions: 4
Number of Injuries: 1
Number of Fatalities: 0
ADT: 24200
Start Date: January 1, 2012
End Date: December 31, 2016
Number of Years: 5

Intersection Type: Tee
Control Type: No Controls
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{4 \times 1{,}000{,}000}{24{,}200 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.09 c/mve**	**0.0%**	**25.0%**
Statewide Average*	**0.06 c/mve**	**0.6%**	**38.2%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection Collision Rate Calculaions

Vineyard Crossing Project

Intersection # 5: Lovers Lane & Despina Dr

Date of Count: Thursday, March 02, 2017

Number of Collisions: 0
Number of Injuries: 0
Number of Fatalities: 0
ADT: 510
Start Date: January 1, 2012
End Date: December 31, 2016
Number of Years: 5

Intersection Type: Tee
Control Type: Stop & Yield Controls
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{0 \times 1{,}000{,}000}{510 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.00 c/mve**	**0.0%**	**0.0%**
Statewide Average*	**0.18 c/mve**	**0.7%**	**36.4%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection # 6: Lovers Lane & KUKI Road

Date of Count: Saturday, January 00, 1900

Number of Collisions: 2
Number of Injuries: 0
Number of Fatalities: 0
ADT: 4800
Start Date: January 1, 2012
End Date: December 31, 2016
Number of Years: 5

Intersection Type: Tee
Control Type: Stop & Yield Controls
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{2 \times 1{,}000{,}000}{4{,}800 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.23 c/mve**	**0.0%**	**0.0%**
Statewide Average*	**0.18 c/mve**	**0.7%**	**36.4%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection Collision Rate Calculaions

Vineyard Crossing Project

Intersection # 7: North State Street & KUKI Road

Date of Count: Thursday, March 02, 2017

Number of Collisions: 15
Number of Injuries: 6
Number of Fatalities: 0
ADT: 19800
Start Date: January 1, 2012
End Date: December 31, 2016
Number of Years: 5

Intersection Type: Four-Legged
Control Type: Signals
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{15 \times 1{,}000{,}000}{19{,}800 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.42 c/mve**	**0.0%**	**40.0%**
Statewide Average*	**0.27 c/mve**	**0.4%**	**41.9%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection # 8: South Empire Drive & Despina Drive

Date of Count: Thursday, March 02, 2017

Number of Collisions: 1
Number of Injuries: 0
Number of Fatalities: 0
ADT: 2300
Start Date: January 1, 2012
End Date: December 31, 2016
Number of Years: 5

Intersection Type: Tee
Control Type: Stop & Yield Controls
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{1 \times 1{,}000{,}000}{2{,}300 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.24 c/mve**	**0.0%**	**0.0%**
Statewide Average*	**0.18 c/mve**	**0.7%**	**36.4%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection Collision Rate Calculaions

Vineyard Crossing Project

Intersection # 9: North State Street & South Empire Drive-Ford Road

Date of Count: Thursday, March 02, 2017

Number of Collisions: 17
Number of Injuries: 7
Number of Fatalities: 0
ADT: 22800
Start Date: January 1, 2012
End Date: December 31, 2016
Number of Years: 5

Intersection Type: Four-Legged
Control Type: Signals
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{17 \times 1{,}000{,}000}{22{,}800 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.41 c/mve**	**0.0%**	**41.2%**
Statewide Average*	**0.27 c/mve**	**0.4%**	**41.9%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Appendix B

Intersection Level of Service Calculations

DRAFT

Intersection Level Of Service Report
Intersection 1: N. State St/Orr Springs Rd

Control Type:	Two-way stop	Delay (sec / veh):	35.6
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	N. State St			N State St						Hollow Tree Creek Rd		
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	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	140.00	100.00	100.00	100.00	100.00	130.00	100.00	100.00	25.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	N. State St			N State St						Hollow Tree Creek Rd		
Base Volume Input [veh/h]	74	525	5	2	375	32	17	1	79	0	0	0
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
Total Hourly Volume [veh/h]	74	525	5	2	375	32	17	1	79	0	0	0
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
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]	21	149	1	1	107	9	5	0	22	0	0	0
Total Analysis Volume [veh/h]	84	597	6	2	426	36	19	1	90	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane										No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							Yes			No		
Number of Storage Spaces in Median	0			0			1			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.01	0.00	0.00	0.00	0.00	0.07	0.00	0.14	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.55	0.00	0.00	8.70	0.00	0.00	19.46	19.14	11.68	35.58	27.13	12.19
Movement LOS	A	A	A	A	A	A	C	C	B	E	D	B
95th-Percentile Queue Length [veh]	0.25	0.00	0.00	2.27	2.27	0.00	0.24	0.24	0.50	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	6.19	0.00	0.00	56.84	56.84	0.00	5.97	5.97	12.44	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	1.04			0.04			13.09			24.97		
Approach LOS	A			A			B			C		
d_I, Intersection Delay [s/veh]	1.73											
Intersection LOS	E											

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 AM Existing

Intersection Level Of Service Report
Intersection 1: N. State St/Orr Springs Rd

Control Type:	Two-way stop	Delay (sec / veh):	46.7
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	N. State St			N State St			Orr Springs Rd			Hollow Tree Creek Rd		
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	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	140.00	100.00	100.00	100.00	100.00	130.00	100.00	100.00	25.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	N. State St			N State St			Orr Springs Rd			Hollow Tree Creek Rd		
Base Volume Input [veh/h]	66	603	2	0	558	29	28	0	93	0	0	0
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
Total Hourly Volume [veh/h]	66	603	2	0	558	29	28	0	93	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	159	1	0	147	8	7	0	24	0	0	0
Total Analysis Volume [veh/h]	69	635	2	0	587	31	29	0	98	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane										No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							Yes			No		
Number of Storage Spaces in Median	0			0			1			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.01	0.00	0.00	0.01	0.00	0.12	0.00	0.19	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.03	0.00	0.00	8.80	0.00	0.00	21.91	21.33	13.74	46.69	32.33	12.53
Movement LOS	A	A	A	A	A	A	C	C	B	E	D	B
95th-Percentile Queue Length [veh]	0.23	0.00	0.00	0.00	0.00	0.00	0.40	0.40	0.70	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	5.78	0.00	0.00	0.00	0.00	0.00	10.07	10.07	17.62	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.88			0.00			15.61			30.52		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	1.80											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 2: N. State St/US 101 N. Ramps

Control Type:	Two-way stop	Delay (sec / veh):	15.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.332

Intersection Setup

Name	N State St		N State St		US 101 N Ramps	
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	1	1	0	0	0
Pocket Length [ft]	100.00	200.00	105.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 N Ramps	
Base Volume Input [veh/h]	432	209	20	487	154	186
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	8.00	5.00	7.00	6.00	6.00
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]	432	209	20	487	154	186
Peak Hour Factor	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	56	5	130	41	50
Total Analysis Volume [veh/h]	461	223	21	520	164	199
Pedestrian Volume [ped/h]	0		0		2	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
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	0.01	0.33	0.26
d_M, Delay for Movement [s/veh]	0.00	0.00	9.18	0.00	15.88	11.45
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.07	0.00	1.44	1.06
95th-Percentile Queue Length [ft]	0.00	0.00	1.83	0.00	36.06	26.40
d_A, Approach Delay [s/veh]	0.00		0.36		13.45	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.20					
Intersection LOS	C					

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 AM Existing

Intersection Level Of Service Report
Intersection 2: N. State St/US 101 N. Ramps

Control Type:	Two-way stop	Delay (sec / veh):	35.5
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.716

Intersection Setup

Name	N State St		N State St		US 101 N Ramps	
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	1	1	0	0	0
Pocket Length [ft]	100.00	200.00	105.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 N Ramps	
Base Volume Input [veh/h]	564	409	34	682	240	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	8.00	5.00	7.00	6.00	6.00
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]	564	409	34	682	240	151
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	157	114	9	189	67	42
Total Analysis Volume [veh/h]	627	454	38	758	267	168
Pedestrian Volume [ped/h]	0		0		2	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
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	0.72	0.25
d_M, Delay for Movement [s/veh]	0.00	0.00	11.17	0.00	35.55	12.20
Movement LOS	A	A	B	A	E	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.19	0.00	5.38	0.99
95th-Percentile Queue Length [ft]	0.00	0.00	4.87	0.00	134.40	24.84
d_A, Approach Delay [s/veh]	0.00		0.53		26.53	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	5.18					
Intersection LOS	E					

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 PM Existing

Intersection Level Of Service Report
Intersection 3: N. State St & US 101 South Off-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	36.7
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.181

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	0	631	639	0	22	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	5.00	7.00	2.00	9.00	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]	0	631	639	0	22	401
Peak Hour Factor	1.0000	0.8870	0.8870	1.0000	0.8870	0.8870
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	178	180	0	6	113
Total Analysis Volume [veh/h]	0	711	720	0	25	452
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.18	0.71
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	36.73	23.03
Movement LOS		A	A		E	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.63	5.80
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	15.86	144.95
d_A, Approach Delay [s/veh]	0.00		0.00		23.75	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	5.94					
Intersection LOS	E					

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 AM Existing

Intersection Level Of Service Report
Intersection 3: N. State St & US 101 South Off-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	79.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.297

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
Approach	Northbound		Southbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	0	956	908	0	18	324
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	5.00	7.00	2.00	9.00	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]	0	956	908	0	18	324
Peak Hour Factor	1.0000	0.9000	0.9000	1.0000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	266	252	0	5	90
Total Analysis Volume [veh/h]	0	1062	1009	0	20	360
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.30	0.70
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	79.56	26.59
Movement LOS		A	A		F	D
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.07	5.43
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	26.80	135.78
d_A, Approach Delay [s/veh]	0.00		0.00		29.38	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.56					
Intersection LOS	F					

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 PM Existing

Intersection Level Of Service Report
Intersection 4: N. State St & US 101 South On-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.197

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
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	1	1	0	0	0
Pocket Length [ft]	100.00	45.00	105.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	624	181	125	912	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	14.00	3.00	5.00	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]	624	181	125	912	0	0
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	177	51	36	259	0	0
Total Analysis Volume [veh/h]	709	206	142	1036	0	0
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.20	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	11.20	0.00	0.00	0.00
Movement LOS	A	A	B	A		
95th-Percentile Queue Length [veh]	0.00	0.00	0.73	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	18.17	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		1.35		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.76					
Intersection LOS	B					

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 AM Existing

Intersection Level Of Service Report
Intersection 4: N. State St & US 101 South On-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	18.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.475

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
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	1	1	0	0	0
Pocket Length [ft]	100.00	45.00	105.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	962	223	216	1015	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	14.00	3.00	5.00	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]	962	223	216	1015	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	267	62	60	282	0	0
Total Analysis Volume [veh/h]	1069	248	240	1128	0	0
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.48	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	18.41	0.00	0.00	0.00
Movement LOS	A	A	C	A		
95th-Percentile Queue Length [veh]	0.00	0.00	2.52	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	63.09	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.23		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.65					
Intersection LOS	C					

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 PM Existing

Intersection Level Of Service Report
Intersection 5: Lovers Ln/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Despina Dr		Lovers Ln		Lovers Ln	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Despina Dr		Lovers Ln		Lovers Ln	
Base Volume Input [veh/h]	2	27	3	2	107	2
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]	2	27	3	2	107	2
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	8	1	1	30	1
Total Analysis Volume [veh/h]	2	31	3	2	122	2
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.08	0.00
d_M, Delay for Movement [s/veh]	10.39	8.45	0.00	0.00	7.41	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.10	0.10	0.00	0.00	0.25	0.25
95th-Percentile Queue Length [ft]	2.45	2.45	0.00	0.00	6.22	6.22
d_A, Approach Delay [s/veh]	8.57		0.00		7.29	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.32					
Intersection LOS	B					

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 AM Existing

Intersection Level Of Service Report
Intersection 5: Lovers Ln/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Despina Dr		Lovers Ln		Lovers Ln	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Despina Dr		Lovers Ln		Lovers Ln	
Base Volume Input [veh/h]	1	16	3	3	23	5
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]	1	16	3	3	23	5
Peak Hour Factor	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
Total 15-Minute Volume [veh/h]	0	4	1	1	6	1
Total Analysis Volume [veh/h]	1	18	3	3	25	5
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	8.92	8.40	0.00	0.00	7.26	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.05	0.05	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft]	1.36	1.36	0.00	0.00	1.42	1.42
d_A, Approach Delay [s/veh]	8.43		0.00		6.05	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.21					
Intersection LOS	A					

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 PM Existing

Intersection Level Of Service Report
Intersection 6: N. Lovers Ln/Kuki Rd

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
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	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
Base Volume Input [veh/h]	0	1	6	85	2	0	0	162	5	4	198	180
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
Total Hourly Volume [veh/h]	0	1	6	85	2	0	0	162	5	4	198	180
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
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]	0	0	2	24	1	0	0	46	1	1	56	51
Total Analysis Volume [veh/h]	0	1	7	97	2	0	0	184	6	5	225	205
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.89	14.09	9.26	15.12	15.13	12.24	8.19	0.00	0.00	7.61	0.00	0.00
Movement LOS	B	B	A	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.03	0.03	0.82	0.82	0.82	0.00	0.00	0.00	1.36	1.36	1.36
95th-Percentile Queue Length [ft]	0.81	0.81	0.81	20.52	20.52	20.52	0.00	0.00	0.00	34.00	34.00	34.00
d_A, Approach Delay [s/veh]	9.87			15.12			0.00			0.09		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	2.20											
Intersection LOS	C											

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 AM Existing

Intersection Level Of Service Report
Intersection 6: Lovers Ln/Kuki Rd

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
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	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
Base Volume Input [veh/h]	1	2	8	77	2	11	0	121	2	10	126	122
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
Total Hourly Volume [veh/h]	1	2	8	77	2	11	0	121	2	10	126	122
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
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]	0	1	2	22	1	3	0	34	1	3	36	35
Total Analysis Volume [veh/h]	1	2	9	88	2	13	0	138	2	11	143	139
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.16	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	11.48	12.21	9.03	12.63	12.82	10.63	7.81	0.00	0.00	7.51	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.05	0.05	0.05	0.63	0.63	0.63	0.00	0.00	0.00	0.76	0.76	0.76
95th-Percentile Queue Length [ft]	1.19	1.19	1.19	15.69	15.69	15.69	0.00	0.00	0.00	19.00	19.00	19.00
d_A, Approach Delay [s/veh]	9.77			12.38			0.00			0.28		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	2.69											
Intersection LOS	B											

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 PM Existing

Intersection Level Of Service Report
Intersection 7: N. State St/Kuki Rd

Control Type:	Signalized	Delay (sec / veh):	10.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name	N State St			N State St			Kuki Rd			Driveway		
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	1	0	0	1	1	0	0
Pocket Length [ft]	150.00	100.00	100.00	180.00	100.00	150.00	100.00	100.00	70.00	25.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	N State St			N State St			Kuki Rd			Driveway		
Base Volume Input [veh/h]	53	685	9	43	816	325	190	4	56	6	5	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]	53	685	9	43	816	325	190	4	56	6	5	37
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
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]	15	195	3	12	232	92	54	1	16	2	1	11
Total Analysis Volume [veh/h]	60	778	10	49	927	369	216	5	64	7	6	42
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	49	0	21	38	0	0	31	0	0	31	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 AM Existing

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	L	C
C, Cycle Length [s]	39	39	39	39	39	39	39	39	39	39
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	14	14	2	14	14	11	11	11	11
g / C, Green / Cycle	0.06	0.35	0.35	0.05	0.35	0.35	0.29	0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.03	0.21	0.21	0.03	0.26	0.23	0.22	0.04	0.00	0.03
s, saturation flow rate [veh/h]	1774	1863	1854	1774	3547	1583	1001	1583	1405	1614
c, Capacity [veh/h]	109	645	642	94	1259	562	468	454	193	462
d1, Uniform Delay [s]	17.50	8.58	8.58	17.76	8.85	8.51	14.56	10.41	19.45	10.29
k, delay calibration	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	4.33	0.94	0.95	4.46	0.86	1.31	0.74	0.14	0.08	0.10
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
Rp, platoon ratio	1.33	1.33	1.33	1.33	1.33	1.33	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

Lane Group Results

X, volume / capacity	0.55	0.61	0.61	0.52	0.74	0.66	0.47	0.14	0.04	0.10
d, Delay for Lane Group [s/veh]	21.83	9.52	9.53	22.22	9.71	9.82	15.30	10.55	19.53	10.39
Lane Group LOS	C	A	A	C	A	A	B	B	B	B
Critical Lane Group	No	No	No	Yes	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh]	0.54	1.58	1.57	0.45	1.83	1.50	1.61	0.34	0.06	0.26
50th-Percentile Queue Length [ft]	13.44	39.50	39.35	11.30	45.74	37.60	40.22	8.62	1.50	6.38
95th-Percentile Queue Length [veh]	0.97	2.84	2.83	0.81	3.29	2.71	2.90	0.62	0.11	0.46
95th-Percentile Queue Length [ft]	24.19	71.10	70.83	20.34	82.32	67.67	72.39	15.52	2.70	11.49

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.83	9.53	9.53	22.22	9.71	9.82	15.30	15.30	10.55	19.53	10.39	10.39
Movement LOS	C	A	A	C	A	A	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	10.40			10.20			14.23			11.55		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	10.75											
Intersection LOS	B											
Intersection V/C	0.482											

Sequence

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

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 AM Existing

Intersection Level Of Service Report
Intersection 7: N. State St/Kuki Rd

Control Type:	Signalized	Delay (sec / veh):	16.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.529

Intersection Setup

Name	N State St			N State St			Kuki Rd			Driveway		
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	1	0	0	1	1	0	0
Pocket Length [ft]	150.00	100.00	100.00	180.00	100.00	150.00	100.00	100.00	70.00	25.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	N State St			N State St			Kuki Rd			Driveway		
Base Volume Input [veh/h]	66	922	73	195	701	167	121	24	57	43	25	202
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]	66	922	73	195	701	167	121	24	57	43	25	202
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	243	19	51	184	44	32	6	15	11	7	53
Total Analysis Volume [veh/h]	69	971	77	205	738	176	127	25	60	45	26	213
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	49	0	21	38	0	0	31	0	0	31	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 PM Existing

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	L	C
C, Cycle Length [s]	51	51	51	51	51	51	51	51	51	51
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	18	18	7	14	14	18	18	18	18
g / C, Green / Cycle	0.06	0.35	0.35	0.14	0.27	0.27	0.36	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.04	0.28	0.29	0.16	0.21	0.11	0.20	0.04	0.03	0.15
s, saturation flow rate [veh/h]	1774	1863	1815	1264	3547	1583	742	1583	1380	1610
c, Capacity [veh/h]	109	649	632	387	954	426	393	564	239	574
d1, Uniform Delay [s]	23.00	12.33	12.34	20.41	15.08	13.41	17.27	11.05	22.87	12.49
k, delay calibration	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	5.95	2.60	2.68	1.12	1.38	0.64	0.62	0.08	0.38	0.48
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
Rp, platoon ratio	1.33	1.33	1.33	1.33	1.33	1.33	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

Lane Group Results

X, volume / capacity	0.63	0.82	0.82	0.53	0.77	0.41	0.39	0.11	0.19	0.42
d, Delay for Lane Group [s/veh]	28.96	14.94	15.01	21.54	16.45	14.05	17.89	11.13	23.25	12.97
Lane Group LOS	C	B	B	C	B	B	B	B	C	B
Critical Lane Group	Yes	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh]	0.87	3.75	3.67	2.01	2.91	1.25	1.50	0.40	0.51	1.84
50th-Percentile Queue Length [ft]	21.74	93.67	91.66	50.35	72.68	31.33	37.53	10.10	12.65	45.95
95th-Percentile Queue Length [veh]	1.57	6.74	6.60	3.63	5.23	2.26	2.70	0.73	0.91	3.31
95th-Percentile Queue Length [ft]	39.14	168.61	164.98	90.63	130.83	56.39	67.55	18.18	22.76	82.70

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.96	14.97	15.01	21.54	16.45	14.05	17.89	17.89	11.13	23.25	12.97	12.97
Movement LOS	C	B	B	C	B	B	B	B	B	C	B	B
d_A, Approach Delay [s/veh]	15.84			17.01			15.98			14.60		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	16.20											
Intersection LOS	B											
Intersection V/C	0.529											

Sequence

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

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 PM Existing

Intersection Level Of Service Report
Intersection 7: N. State St/Kuki Rd

Control Type:	Signalized	Delay (sec / veh):	16.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.560

Intersection Setup

Name	N State St			N State St			Kuki Rd			Driveway		
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	1	0	0	1	1	0	0
Pocket Length [ft]	150.00	100.00	100.00	180.00	100.00	150.00	100.00	100.00	70.00	25.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	N State St			N State St			Kuki Rd			Driveway		
Base Volume Input [veh/h]	76	812	48	145	649	157	166	13	30	27	18	151
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]	76	812	48	145	649	157	166	13	30	27	18	151
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]	21	228	13	41	182	44	47	4	8	8	5	42
Total Analysis Volume [veh/h]	85	912	54	163	729	176	187	15	34	30	20	170
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	49	0	21	38	0	0	31	0	0	31	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 Mid-Afternoon Existing

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	L	C
C, Cycle Length [s]	51	51	51	51	51	51	51	51	51	51
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	17	17	7	14	14	19	19	19	19
g / C, Green / Cycle	0.07	0.33	0.33	0.14	0.26	0.26	0.36	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.05	0.26	0.26	0.09	0.21	0.11	0.25	0.02	0.02	0.12
s, saturation flow rate [veh/h]	1774	1863	1826	1774	3547	1583	808	1583	1393	1609
c, Capacity [veh/h]	121	623	611	246	936	418	429	575	207	584
d1, Uniform Delay [s]	22.77	12.60	12.60	19.76	15.26	13.61	17.53	10.62	23.73	11.78
k, delay calibration	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	7.21	2.20	2.24	3.04	1.44	0.67	0.81	0.04	0.32	0.32
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
Rp, platoon ratio	1.33	1.33	1.33	1.33	1.33	1.33	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

Lane Group Results

X, volume / capacity	0.70	0.78	0.78	0.66	0.78	0.42	0.47	0.06	0.14	0.33
d, Delay for Lane Group [s/veh]	29.98	14.80	14.84	22.80	16.69	14.29	18.33	10.66	24.05	12.10
Lane Group LOS	C	B	B	C	B	B	B	B	C	B
Critical Lane Group	Yes	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh]	1.09	3.46	3.40	1.68	2.90	1.27	2.02	0.22	0.35	1.39
50th-Percentile Queue Length [ft]	27.21	86.44	84.95	42.04	72.55	31.71	50.43	5.55	8.64	34.65
95th-Percentile Queue Length [veh]	1.96	6.22	6.12	3.03	5.22	2.28	3.63	0.40	0.62	2.50
95th-Percentile Queue Length [ft]	48.98	155.59	152.91	75.67	130.59	57.08	90.78	9.99	15.55	62.38

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.98	14.82	14.84	22.80	16.69	14.29	18.33	18.33	10.66	24.05	12.10	12.10
Movement LOS	C	B	B	C	B	B	B	B	B	C	B	B
d_A, Approach Delay [s/veh]	16.05			17.23			17.23			13.73		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	16.45											
Intersection LOS	B											
Intersection V/C	0.560											

Sequence

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

Intersection Level Of Service Report
Intersection 8: S. Empire Dr/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	14.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.255

Intersection Setup

Name	Despina Dr		Despina Dr		S. Empire 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	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Despina Dr		Despina Dr		S. Empire Dr	
Base Volume Input [veh/h]	58	121	29	260	116	6
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]	58	121	29	260	116	6
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	34	8	74	33	2
Total Analysis Volume [veh/h]	66	138	33	295	132	7
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.25	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.70	0.00	14.36	11.34
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.94	0.94	1.05	1.05
95th-Percentile Queue Length [ft]	0.00	0.00	23.49	23.49	26.15	26.15
d_A, Approach Delay [s/veh]	0.00		0.77		14.21	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.32					
Intersection LOS	B					

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 AM Existing

Intersection Level Of Service Report
Intersection 8: S. Empire Dr/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.058

Intersection Setup

Name	Despina Dr		Despina Dr		S. Empire 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	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Despina Dr		Despina Dr		S. Empire Dr	
Base Volume Input [veh/h]	64	50	6	49	41	13
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]	64	50	6	49	41	13
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	14	2	14	12	4
Total Analysis Volume [veh/h]	73	57	7	56	47	15
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.06	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.49	0.00	9.76	9.11
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.14	0.14	0.24	0.24
95th-Percentile Queue Length [ft]	0.00	0.00	3.39	3.39	5.93	5.93
d_A, Approach Delay [s/veh]	0.00		0.83		9.60	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.54					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 9: N. State St/S. Empire Dr-Ford Rd

Control Type:	Signalized	Delay (sec / veh):	23.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.517

Intersection Setup

Name	N State St			N State St			S Empire Dr			Ford Rd		
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]	190.00	100.00	100.00	160.00	100.00	100.00	100.00	100.00	100.00	120.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	N State St			N State St			S Empire Dr			Ford Rd		
Base Volume Input [veh/h]	39	376	60	55	571	149	242	39	51	73	24	44
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	5.00	7.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	13.00
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	13	0	0	27	0	0	11	0	0	13
Total Hourly Volume [veh/h]	39	376	47	55	571	122	242	39	40	73	24	31
Peak Hour Factor	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990
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]	11	105	13	15	159	34	67	11	11	20	7	9
Total Analysis Volume [veh/h]	43	418	52	61	635	136	269	43	44	81	27	34
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

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	20	0	19	30	0	32	34	0	17	19	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 AM Existing

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	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
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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	50	50	4	51	51	16	15	5	4
g / C, Green / Cycle	0.04	0.55	0.55	0.05	0.56	0.56	0.18	0.16	0.06	0.05
(v / s)_i Volume / Saturation Flow Rate	0.02	0.13	0.13	0.04	0.21	0.21	0.15	0.05	0.05	0.04
s, saturation flow rate [veh/h]	1774	1863	1792	1691	1863	1750	1774	1710	1774	1696
c, Capacity [veh/h]	66	1031	991	79	1048	985	312	279	106	79
d1, Uniform Delay [s]	42.78	10.31	10.32	42.48	10.96	10.96	36.07	33.26	41.73	42.45
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	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
d2, Incremental Delay [s]	10.25	0.53	0.55	14.87	1.04	1.11	7.04	0.63	10.82	14.27
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
Rp, platoon ratio	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

Lane Group Results

X, volume / capacity	0.65	0.23	0.23	0.78	0.38	0.38	0.86	0.31	0.76	0.77
d, Delay for Lane Group [s/veh]	53.03	10.83	10.87	57.35	12.00	12.08	43.11	33.89	52.55	56.72
Lane Group LOS	D	B	B	E	B	B	D	C	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	1.09	2.23	2.17	1.61	4.02	3.80	6.23	1.70	2.07	1.64
50th-Percentile Queue Length [ft]	27.32	55.64	54.19	40.23	100.43	94.99	155.87	42.62	51.76	41.04
95th-Percentile Queue Length [veh]	1.97	4.01	3.90	2.90	7.23	6.84	10.33	3.07	3.73	2.95
95th-Percentile Queue Length [ft]	49.17	100.15	97.55	72.41	180.78	170.98	258.24	76.71	93.17	73.87

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.03	10.85	10.87	57.35	12.03	12.08	43.11	33.89	33.89	52.55	56.72	56.72
Movement LOS	D	B	B	E	B	B	D	C	C	D	E	E
d_A, Approach Delay [s/veh]	14.39			15.36			40.86			54.34		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	23.02											
Intersection LOS	C											
Intersection V/C	0.517											

Sequence

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

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 AM Existing

Intersection Level Of Service Report
Intersection 9: N. State St & S. Emipre Dr-Ford Rd

Control Type:	Signalized	Delay (sec / veh):	26.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.615

Intersection Setup

Name	N State St			N State St			S Empire Dr			Ford Rd		
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]	190.00	100.00	100.00	160.00	100.00	100.00	100.00	100.00	100.00	120.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	N State St			N State St			S Empire Dr			Ford Rd		
Base Volume Input [veh/h]	95	721	145	33	552	167	230	57	50	91	64	70
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	5.00	7.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	13.00
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	13	0	0	27	0	0	11	0	0	13
Total Hourly Volume [veh/h]	95	721	132	33	552	140	230	57	39	91	64	57
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
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]	26	200	37	9	153	39	64	16	11	25	18	16
Total Analysis Volume [veh/h]	106	801	147	37	613	156	256	63	43	101	71	63
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

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	20	0	19	30	0	32	34	0	17	19	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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

Vineyard Crossing Subdivision W-Trans
Scenario 1: 1 PM Existing

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	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
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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	47	47	3	45	45	15	17	7	9
g / C, Green / Cycle	0.06	0.52	0.52	0.03	0.50	0.50	0.17	0.19	0.07	0.10
(v / s)_i Volume / Saturation Flow Rate	0.06	0.26	0.26	0.02	0.21	0.21	0.14	0.06	0.06	0.08
s, saturation flow rate [veh/h]	1774	1863	1764	1691	1863	1734	1774	1738	1774	1720
c, Capacity [veh/h]	99	971	919	58	931	866	299	336	130	169
d1, Uniform Delay [s]	42.52	13.97	13.97	42.95	14.34	14.35	36.41	31.22	41.00	39.71
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	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
d2, Incremental Delay [s]	60.70	1.85	1.95	11.13	1.44	1.55	7.04	0.53	9.40	8.03
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
Rp, platoon ratio	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

Lane Group Results

X, volume / capacity	1.07	0.50	0.50	0.64	0.43	0.43	0.86	0.32	0.77	0.79
d, Delay for Lane Group [s/veh]	103.22	15.82	15.92	54.08	15.78	15.90	43.45	31.75	50.41	47.74
Lane Group LOS	F	B	B	D	B	B	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	3.79	6.03	5.73	0.96	4.89	4.59	5.95	2.00	2.51	3.24
50th-Percentile Queue Length [ft]	94.70	150.63	143.34	23.96	122.25	114.76	148.67	50.07	62.86	80.92
95th-Percentile Queue Length [veh]	6.82	10.05	9.66	1.72	8.52	8.10	9.95	3.60	4.53	5.83
95th-Percentile Queue Length [ft]	170.47	251.27	241.51	43.12	212.92	202.60	248.65	90.12	113.15	145.66

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	103.22	15.86	15.92	54.08	15.82	15.90	43.45	31.75	31.75	50.41	47.74	47.74
Movement LOS	F	B	B	D	B	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	24.65			17.59			40.02			48.89		
Approach LOS	C			B			D			D		
d_I, Intersection Delay [s/veh]	26.92											
Intersection LOS	C											
Intersection V/C	0.615											

Sequence

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

Intersection Level Of Service Report
Intersection 1: N. State St/Orr Springs Rd

Control Type:	Two-way stop	Delay (sec / veh):	44.7
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	N. State St			N State St						Hollow Tree Creek Rd		
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	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	140.00	100.00	100.00	100.00	100.00	130.00	100.00	100.00	25.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	N. State St			N State St						Hollow Tree Creek Rd		
Base Volume Input [veh/h]	74	525	5	2	375	32	17	1	79	0	0	0
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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.00	1.30
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
Total Hourly Volume [veh/h]	74	683	7	3	488	42	22	1	103	0	0	0
Peak Hour 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
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]	19	171	2	1	122	11	6	0	26	0	0	0
Total Analysis Volume [veh/h]	74	683	7	3	488	42	22	1	103	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane										No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							Yes			No		
Number of Storage Spaces in Median	0			0			1			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.01	0.00	0.00	0.00	0.00	0.09	0.00	0.18	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.74	0.00	0.00	8.99	0.00	0.00	21.52	20.94	12.55	44.74	31.64	13.05
Movement LOS	A	A	A	A	A	A	C	C	B	E	D	B
95th-Percentile Queue Length [veh]	0.23	0.00	0.00	3.35	3.35	0.00	0.31	0.31	0.64	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	5.75	0.00	0.00	83.63	83.63	0.00	7.81	7.81	16.03	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.85			0.05			14.18			29.81		
Approach LOS	A			A			B			D		
d_I, Intersection Delay [s/veh]	1.73											
Intersection LOS	E											

Vineyard Crossing Subdivision W-Trans
Scenario 3: 3 AM Future

Intersection Level Of Service Report
Intersection 1: N. State St/Orr Springs Rd

Control Type:	Two-way stop	Delay (sec / veh):	87.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	N. State St			N State St			Orr Springs Rd			Hollow Tree Creek Rd		
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	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	140.00	100.00	100.00	100.00	100.00	130.00	100.00	100.00	25.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	N. State St			N State St			Orr Springs Rd			Hollow Tree Creek Rd		
Base Volume Input [veh/h]	66	603	2	0	558	29	28	0	93	0	0	0
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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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
Total Hourly Volume [veh/h]	86	784	3	0	725	38	36	0	121	0	0	0
Peak Hour 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
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	196	1	0	181	10	9	0	30	0	0	0
Total Analysis Volume [veh/h]	86	784	3	0	725	38	36	0	121	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane										No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							Yes			No		
Number of Storage Spaces in Median	0			0			1			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.01	0.00	0.00	0.01	0.00	0.20	0.00	0.28	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.71	0.00	0.00	9.33	0.00	0.00	29.91	28.64	16.80	87.94	49.82	14.17
Movement LOS	A	A	A	A	A	A	D	D	C	F	E	B
95th-Percentile Queue Length [veh]	0.34	0.00	0.00	0.00	0.00	0.00	0.72	0.72	1.16	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	8.42	0.00	0.00	0.00	0.00	0.00	18.02	18.02	28.96	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.96			0.00			19.81			50.65		
Approach LOS	A			A			C			F		
d_I, Intersection Delay [s/veh]	2.20											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 2: N. State St/US 101 N. Ramps

Control Type:	Two-way stop	Delay (sec / veh):	20.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.468

Intersection Setup

Name	N State St		N State St		US 101 N Ramps	
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	1	1	0	0	0
Pocket Length [ft]	100.00	200.00	105.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 N Ramps	
Base Volume Input [veh/h]	432	209	20	487	154	186
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	8.00	5.00	7.00	6.00	6.00
Growth Rate	1.30	1.30	1.30	1.30	1.30	1.30
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]	562	272	26	633	200	242
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	141	68	7	158	50	61
Total Analysis Volume [veh/h]	562	272	26	633	200	242
Pedestrian Volume [ped/h]	0		0		2	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
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	0.47	0.35
d_M, Delay for Movement [s/veh]	0.00	0.00	9.82	0.00	20.59	12.82
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.10	0.00	2.43	1.54
95th-Percentile Queue Length [ft]	0.00	0.00	2.61	0.00	60.69	38.53
d_A, Approach Delay [s/veh]	0.00		0.39		16.34	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	3.86					
Intersection LOS	C					

Vineyard Crossing Subdivision W-Trans
Scenario 3: 3 AM Future

Intersection Level Of Service Report
Intersection 2: N. State St/US 101 N. Ramps

Control Type:	Two-way stop	Delay (sec / veh):	77.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.964

Intersection Setup

Name	N State St		N State St		US 101 N Ramps	
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	1	1	0	0	0
Pocket Length [ft]	100.00	200.00	105.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 N Ramps	
Base Volume Input [veh/h]	564	409	34	682	240	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	8.00	2.00	2.00	3.00	5.00
Growth Rate	1.30	1.30	1.30	1.30	1.30	1.30
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]	733	532	44	887	312	196
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	183	133	11	222	78	49
Total Analysis Volume [veh/h]	733	532	44	887	312	196
Pedestrian Volume [ped/h]	0		0		2	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
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	0.01	0.08	0.01	0.96	0.32
d_M, Delay for Movement [s/veh]	0.00	0.00	12.21	0.00	77.86	13.49
Movement LOS	A	A	B	A	F	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.26	0.00	10.11	1.36
95th-Percentile Queue Length [ft]	0.00	0.00	6.58	0.00	252.66	33.90
d_A, Approach Delay [s/veh]	0.00		0.58		53.03	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	10.16					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 2: N. State St/US 101 N. Ramps

Control Type:	Two-way stop	Delay (sec / veh):	24.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.531

Intersection Setup

Name	N State St		N State St		US 101 N Ramps	
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	1	1	0	0	0
Pocket Length [ft]	100.00	200.00	105.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 N Ramps	
Base Volume Input [veh/h]	432	209	20	487	154	186
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	8.00	5.00	7.00	6.00	6.00
Growth Rate	1.30	1.30	1.30	1.30	1.30	1.30
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]	562	272	26	633	200	242
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	141	68	7	158	50	61
Total Analysis Volume [veh/h]	562	272	26	633	200	242
Pedestrian Volume [ped/h]	0		0		2	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
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	0.53	0.47
d_M, Delay for Movement [s/veh]	0.00	0.00	9.75	0.00	24.86	17.86
Movement LOS	A	A	A	A	C	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.10	0.00	2.99	2.45
95th-Percentile Queue Length [ft]	0.00	0.00	2.57	0.00	74.74	61.22
d_A, Approach Delay [s/veh]	0.00		0.38		21.03	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	4.93					
Intersection LOS	C					

Vineyard Crossing Subdivision W-Trans
Scenario 6: 6 AM Future - Caltrans Ramp Improvements

Intersection Level Of Service Report
Intersection 2: N. State St/US 101 N. Ramps

Control Type:	Two-way stop	Delay (sec / veh):	77.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.962

Intersection Setup

Name	N State St		N State St		US 101 N Ramps	
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	1	1	0	0	0
Pocket Length [ft]	100.00	200.00	105.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 N Ramps	
Base Volume Input [veh/h]	564	409	34	682	240	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	8.00	2.00	2.00	3.00	5.00
Growth Rate	1.30	1.30	1.30	1.30	1.30	1.30
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]	733	532	44	887	312	196
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	183	133	11	222	78	49
Total Analysis Volume [veh/h]	733	532	44	887	312	196
Pedestrian Volume [ped/h]	0		0		2	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	7

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.08	0.01	0.96	0.47
d_M, Delay for Movement [s/veh]	0.00	0.00	12.15	0.00	77.37	21.15
Movement LOS	A	A	B	A	F	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.26	0.00	10.07	2.46
95th-Percentile Queue Length [ft]	0.00	0.00	6.53	0.00	251.80	61.42
d_A, Approach Delay [s/veh]	0.00		0.57		55.68	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	10.66					
Intersection LOS	F					

Vineyard Crossing Subdivision W-Trans
Scenario 8: 8 PM Future - Caltrans Ramp Improvements

Intersection Level Of Service Report
Intersection 3: N. State St & US 101 South Off-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	50.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.271

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	0	631	639	0	22	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	5.00	7.00	2.00	9.00	1.00
Growth Rate	1.00	1.30	1.30	1.00	1.30	1.30
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]	0	820	831	0	29	521
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	205	208	0	7	130
Total Analysis Volume [veh/h]	0	820	831	0	29	521
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.27	0.88
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	50.61	40.95
Movement LOS		A	A		F	E
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.01	10.37
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	25.22	259.27
d_A, Approach Delay [s/veh]	0.00		0.00		41.46	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	10.36					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: N. State St & US 101 South Off-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	151.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.515

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
Approach	Northbound		Southbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	0	956	908	0	18	324
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	5.00	7.00	2.00	9.00	1.00
Growth Rate	1.00	1.30	1.30	1.00	1.30	1.30
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]	0	1243	1180	0	23	421
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	311	295	0	6	105
Total Analysis Volume [veh/h]	0	1243	1180	0	23	421
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.51	0.93
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	151.36	56.69
Movement LOS		A	A		F	F
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.88	10.71
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	47.00	267.63
d_A, Approach Delay [s/veh]	0.00		0.00		61.60	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	9.54					
Intersection LOS	F					

Vineyard Crossing Subdivision W-Trans
Scenario 3: 3 PM Future

Intersection Level Of Service Report
Intersection 3: N. State St & US 101 South Off-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	50.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.271

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	0	631	639	0	22	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	5.00	7.00	2.00	9.00	1.00
Growth Rate	1.00	1.30	1.30	1.00	1.30	1.30
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]	0	820	831	0	29	521
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	205	208	0	7	130
Total Analysis Volume [veh/h]	0	820	831	0	29	521
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.27	0.88
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	50.61	40.95
Movement LOS		A	A		F	E
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.01	10.37
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	25.22	259.27
d_A, Approach Delay [s/veh]	0.00		0.00		41.46	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	10.36					
Intersection LOS	F					

Vineyard Crossing Subdivision W-Trans
Scenario 6: 6 AM Future - Caltrans Ramp Improvements

Intersection Level Of Service Report
Intersection 3: N. State St & US 101 South Off-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	151.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.515

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	0	956	908	0	18	324
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	5.00	7.00	2.00	9.00	1.00
Growth Rate	1.00	1.30	1.30	1.00	1.30	1.30
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]	0	1243	1180	0	23	421
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	311	295	0	6	105
Total Analysis Volume [veh/h]	0	1243	1180	0	23	421
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.51	0.93
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	151.36	56.69
Movement LOS		A	A		F	F
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.88	10.71
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	47.00	267.63
d_A, Approach Delay [s/veh]	0.00		0.00		61.60	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	9.54					
Intersection LOS	F					

Vineyard Crossing Subdivision W-Trans
Scenario 8: 8 PM Future - Caltrans Ramp Improvements

Intersection Level Of Service Report
Intersection 4: N. State St & US 101 South On-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.253

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
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	1	1	0	0	0
Pocket Length [ft]	100.00	45.00	105.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	624	181	125	912	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	14.00	3.00	5.00	2.00	2.00	2.00
Growth Rate	1.30	1.30	1.30	1.30	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]	811	235	163	1186	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	203	59	41	297	0	0
Total Analysis Volume [veh/h]	811	235	163	1186	0	0
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.25	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	12.49	0.00	0.00	0.00
Movement LOS	A	A	B	A		
95th-Percentile Queue Length [veh]	0.00	0.00	1.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	25.04	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		1.51		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.85					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: N. State St & US 101 South On-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	20.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.556

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
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	1	1	0	0	0
Pocket Length [ft]	100.00	45.00	105.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	962	223	216	1015	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	14.00	3.00	5.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.30	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]	962	223	281	1015	0	0
Peak Hour Factor	0.9000	0.9000	1.0000	0.9000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	267	62	70	282	0	0
Total Analysis Volume [veh/h]	1069	248	281	1128	0	0
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.56	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	20.70	0.00	0.00	0.00
Movement LOS	A	A	C	A		
95th-Percentile Queue Length [veh]	0.00	0.00	3.36	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	83.97	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		4.13		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.13					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 5: Lovers Ln/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Despina Dr		Lovers Ln		Lovers Ln	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Despina Dr		Lovers Ln		Lovers Ln	
Base Volume Input [veh/h]	2	27	3	2	107	2
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	1.30	1.30	1.30	1.30	1.30	1.30
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]	3	35	4	3	139	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	9	1	1	35	1
Total Analysis Volume [veh/h]	3	35	4	3	139	3
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.09	0.00
d_M, Delay for Movement [s/veh]	10.73	8.48	0.00	0.00	7.44	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.12	0.12	0.00	0.00	0.29	0.29
95th-Percentile Queue Length [ft]	2.89	2.89	0.00	0.00	7.23	7.23
d_A, Approach Delay [s/veh]	8.66		0.00		7.28	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.29					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Lovers Ln/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Despina Dr		Lovers Ln		Lovers Ln	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Despina Dr		Lovers Ln		Lovers Ln	
Base Volume Input [veh/h]	1	16	3	3	23	5
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	1.30	1.30	1.30	1.30	1.30	1.30
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]	1	21	4	4	30	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	1	1	8	2
Total Analysis Volume [veh/h]	1	21	4	4	30	7
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	9.01	8.41	0.00	0.00	7.28	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.06	0.06	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft]	1.58	1.58	0.00	0.00	1.76	1.76
d_A, Approach Delay [s/veh]	8.44		0.00		5.90	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.03					
Intersection LOS	A					

Vineyard Crossing Subdivision W-Trans
Scenario 3: 3 PM Future

Intersection Level Of Service Report
Intersection 6: N. Lovers Ln/Kuki Rd

Control Type:	Two-way stop	Delay (sec / veh):	17.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.274

Intersection Setup

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
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	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
Base Volume Input [veh/h]	0	1	6	85	2	0	0	162	5	4	198	180
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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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
Total Hourly Volume [veh/h]	0	1	8	111	3	0	0	211	7	5	257	234
Peak Hour 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
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]	0	0	2	28	1	0	0	53	2	1	64	59
Total Analysis Volume [veh/h]	0	1	8	111	3	0	0	211	7	5	257	234
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.27	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.87	15.23	9.42	17.35	17.20	13.81	8.36	0.00	0.00	7.67	0.00	0.00
Movement LOS	B	C	A	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.04	0.04	1.14	1.14	1.14	0.00	0.00	0.00	1.71	1.71	1.71
95th-Percentile Queue Length [ft]	0.95	0.95	0.95	28.52	28.52	28.52	0.00	0.00	0.00	42.80	42.80	42.80
d_A, Approach Delay [s/veh]	10.07			17.35			0.00			0.08		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	2.52											
Intersection LOS	C											

Vineyard Crossing Subdivision W-Trans
Scenario 3: 3 AM Future

Intersection Level Of Service Report
Intersection 6: Lovers Ln/Kuki Rd

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
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	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
Base Volume Input [veh/h]	1	2	8	77	2	11	0	121	2	10	126	122
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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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
Total Hourly Volume [veh/h]	1	3	10	100	3	14	0	157	3	13	164	159
Peak Hour 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
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]	0	1	3	25	1	4	0	39	1	3	41	40
Total Analysis Volume [veh/h]	1	3	10	100	3	14	0	157	3	13	164	159
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.19	0.01	0.02	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	12.11	12.88	9.16	13.77	13.86	11.35	7.91	0.00	0.00	7.56	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.06	0.06	0.06	0.82	0.82	0.82	0.00	0.00	0.00	0.92	0.92	0.92
95th-Percentile Queue Length [ft]	1.51	1.51	1.51	20.38	20.38	20.38	0.00	0.00	0.00	23.11	23.11	23.11
d_A, Approach Delay [s/veh]	10.17			13.48			0.00			0.29		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	2.90											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 7: N. State St/Kuki Rd

Control Type:	Signalized	Delay (sec / veh):	12.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.541

Intersection Setup

Name	N State St			N State St			Kuki Rd			Driveway		
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	1	0	0	1	1	0	0
Pocket Length [ft]	150.00	100.00	100.00	180.00	100.00	150.00	100.00	100.00	70.00	25.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	N State St			N State St			Kuki Rd			Driveway		
Base Volume Input [veh/h]	53	685	9	43	816	325	190	4	56	6	5	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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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]	69	891	12	56	1061	423	247	5	73	8	7	48
Peak Hour 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
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]	17	223	3	14	265	106	62	1	18	2	2	12
Total Analysis Volume [veh/h]	69	891	12	56	1061	423	247	5	73	8	7	48
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	49	0	21	38	0	0	31	0	0	31	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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

Vineyard Crossing Subdivision W-Trans
Scenario 3: 3 AM Future

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	L	C
C, Cycle Length [s]	46	46	46	46	46	46	46	46	46	46
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	17	17	3	18	18	14	14	14	14
g / C, Green / Cycle	0.06	0.37	0.37	0.06	0.38	0.38	0.30	0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.04	0.24	0.24	0.03	0.30	0.27	0.24	0.05	0.01	0.03
s, saturation flow rate [veh/h]	1774	1863	1854	1774	3547	1583	1043	1583	1405	1614
c, Capacity [veh/h]	113	697	694	98	1356	605	470	480	176	489
d1, Uniform Delay [s]	20.66	9.35	9.35	20.93	9.78	9.32	16.69	11.79	22.62	11.65
k, delay calibration	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	5.30	1.02	1.03	5.11	1.02	1.47	0.95	0.15	0.10	0.10
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
Rp, platoon ratio	1.33	1.33	1.33	1.33	1.33	1.33	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

Lane Group Results

X, volume / capacity	0.61	0.65	0.65	0.57	0.78	0.70	0.54	0.15	0.05	0.11
d, Delay for Lane Group [s/veh]	25.96	10.38	10.38	26.03	10.80	10.80	17.64	11.94	22.72	11.75
Lane Group LOS	C	B	B	C	B	B	B	B	C	B
Critical Lane Group	No	No	No	Yes	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh]	0.76	2.22	2.21	0.63	2.62	2.12	2.29	0.49	0.08	0.36
50th-Percentile Queue Length [ft]	19.08	55.60	55.36	15.70	65.52	53.04	57.23	12.15	2.10	9.02
95th-Percentile Queue Length [veh]	1.37	4.00	3.99	1.13	4.72	3.82	4.12	0.87	0.15	0.65
95th-Percentile Queue Length [ft]	34.34	100.07	99.65	28.26	117.93	95.48	103.01	21.87	3.78	16.24

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.96	10.38	10.38	26.03	10.80	10.80	17.64	17.64	11.94	22.72	11.75	11.75
Movement LOS	C	B	B	C	B	B	B	B	B	C	B	B
d_A, Approach Delay [s/veh]	11.48			11.36			16.36			13.14		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	12.00											
Intersection LOS	B											
Intersection V/C	0.541											

Sequence

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

Vineyard Crossing Subdivision W-Trans
Scenario 3: 3 AM Future

Intersection Level Of Service Report
Intersection 7: N. State St/Kuki Rd

Control Type:	Signalized	Delay (sec / veh):	28.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.665

Intersection Setup

Name	N State St			N State St			Kuki Rd			Driveway		
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	1	0	0	1	1	0	0
Pocket Length [ft]	150.00	100.00	100.00	180.00	100.00	150.00	100.00	100.00	70.00	25.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	N State St			N State St			Kuki Rd			Driveway		
Base Volume Input [veh/h]	66	922	73	195	701	167	121	24	57	43	25	202
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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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]	86	1199	95	254	911	217	157	31	74	56	33	263
Peak Hour 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
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	300	24	64	228	54	39	8	19	14	8	66
Total Analysis Volume [veh/h]	86	1199	95	254	911	217	157	31	74	56	33	263
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	49	0	21	38	0	0	31	0	0	31	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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

Vineyard Crossing Subdivision W-Trans
Scenario 3: 3 PM Future

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	L	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	28	28	9	24	24	30	30	30	30
g / C, Green / Cycle	0.06	0.38	0.38	0.12	0.32	0.32	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.05	0.35	0.35	0.20	0.26	0.14	0.26	0.05	0.04	0.18
s, saturation flow rate [veh/h]	1774	1863	1815	1278	3547	1583	711	1583	1373	1610
c, Capacity [veh/h]	113	701	683	304	1116	498	372	633	188	644
d1, Uniform Delay [s]	33.77	17.79	17.84	32.14	19.86	17.04	24.90	14.18	34.03	16.56
k, delay calibration	0.11	0.36	0.36	0.11	0.11	0.11	0.20	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
d2, Incremental Delay [s]	9.97	16.57	17.55	6.05	1.52	0.60	1.97	0.08	0.87	0.51
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
Rp, platoon ratio	1.33	1.33	1.33	1.33	1.33	1.33	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

Lane Group Results

X, volume / capacity	0.76	0.93	0.94	0.84	0.82	0.44	0.50	0.12	0.30	0.46
d, Delay for Lane Group [s/veh]	43.74	34.36	35.40	38.19	21.38	17.64	26.87	14.26	34.90	17.07
Lane Group LOS	D	C	D	D	C	B	C	B	C	B
Critical Lane Group	Yes	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh]	1.72	10.13	10.11	4.62	5.50	2.30	3.08	0.76	1.01	3.58
50th-Percentile Queue Length [ft]	42.97	253.22	252.84	115.43	137.50	57.59	77.12	19.02	25.29	89.47
95th-Percentile Queue Length [veh]	3.09	15.35	15.33	8.14	9.35	4.15	5.55	1.37	1.82	6.44
95th-Percentile Queue Length [ft]	77.35	383.70	383.23	203.53	233.65	103.65	138.81	34.23	45.52	161.04

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.74	34.83	35.40	38.19	21.38	17.64	26.87	26.87	14.26	34.90	17.07	17.07
Movement LOS	D	C	D	D	C	B	C	C	B	C	B	B
d_A, Approach Delay [s/veh]	35.43			23.88			23.31			19.91		
Approach LOS	D			C			C			B		
d_I, Intersection Delay [s/veh]	28.14											
Intersection LOS	C											
Intersection V/C	0.665											

Sequence

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

Vineyard Crossing Subdivision W-Trans
Scenario 3: 3 PM Future

Intersection Level Of Service Report
Intersection 7: N. State St/Kuki Rd

Control Type:	Signalized	Delay (sec / veh):	21.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.646

Intersection Setup

Name	N State St			N State St			Kuki Rd			Driveway		
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	1	0	0	1	1	0	0
Pocket Length [ft]	150.00	100.00	100.00	180.00	100.00	150.00	100.00	100.00	70.00	25.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	N State St			N State St			Kuki Rd			Driveway		
Base Volume Input [veh/h]	76	812	48	145	649	157	166	13	30	27	18	151
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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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]	99	1056	62	189	844	204	216	17	39	35	23	196
Peak Hour 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
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]	25	264	16	47	211	51	54	4	10	9	6	49
Total Analysis Volume [veh/h]	99	1056	62	189	844	204	216	17	39	35	23	196
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	49	0	21	38	0	0	31	0	0	31	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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

Vineyard Crossing Subdivision W-Trans
Scenario 3: 3 Mid-Afternoon Future

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	L	C
C, Cycle Length [s]	63	63	63	63	63	63	63	63	63	63
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	22	22	9	18	18	24	24	24	24
g / C, Green / Cycle	0.07	0.35	0.35	0.14	0.29	0.29	0.39	0.39	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.06	0.30	0.30	0.11	0.24	0.13	0.29	0.02	0.03	0.14
s, saturation flow rate [veh/h]	1774	1863	1827	1774	3547	1583	811	1583	1390	1609
c, Capacity [veh/h]	131	655	642	242	1025	458	422	610	190	619
d1, Uniform Delay [s]	27.99	15.46	15.47	25.00	18.02	15.71	21.29	12.28	29.01	13.87
k, delay calibration	0.11	0.19	0.19	0.11	0.11	0.11	0.16	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
d2, Incremental Delay [s]	8.39	5.83	6.00	5.39	1.73	0.68	1.70	0.04	0.46	0.34
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
Rp, platoon ratio	1.33	1.33	1.33	1.33	1.33	1.33	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

Lane Group Results

X, volume / capacity	0.75	0.86	0.86	0.78	0.82	0.45	0.55	0.06	0.18	0.35
d, Delay for Lane Group [s/veh]	36.38	21.29	21.47	30.39	19.76	16.39	22.99	12.33	29.47	14.21
Lane Group LOS	D	C	C	C	B	B	C	B	C	B
Critical Lane Group	Yes	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh]	1.60	5.89	5.82	2.68	4.36	1.87	3.12	0.32	0.52	2.07
50th-Percentile Queue Length [ft]	40.09	147.32	145.41	66.95	109.11	46.64	77.97	8.10	12.93	51.65
95th-Percentile Queue Length [veh]	2.89	9.87	9.77	4.82	7.79	3.36	5.61	0.58	0.93	3.72
95th-Percentile Queue Length [ft]	72.16	246.85	244.28	120.51	194.76	83.96	140.34	14.58	23.27	92.97

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.38	21.38	21.47	30.39	19.76	16.39	22.99	22.99	12.33	29.47	14.21	14.21
Movement LOS	D	C	C	C	B	B	C	C	B	C	B	B
d_A, Approach Delay [s/veh]	22.60			20.83			21.46			16.32		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	21.22											
Intersection LOS	C											
Intersection V/C	0.646											

Sequence

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

Vineyard Crossing Subdivision W-Trans
Scenario 3: 3 Mid-Afternoon Future

Intersection Level Of Service Report
Intersection 8: S. Empire Dr/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.323

Intersection Setup

Name	Despina Dr		Despina Dr		S. Empire 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	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Despina Dr		Despina Dr		S. Empire Dr	
Base Volume Input [veh/h]	58	121	29	260	116	6
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	1.30	1.30	1.30	1.30	1.30	1.30
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]	75	157	38	338	151	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	39	10	85	38	2
Total Analysis Volume [veh/h]	75	157	38	338	151	8
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					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.32	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.77	0.00	16.39	12.72
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	1.16	1.16	1.44	1.44
95th-Percentile Queue Length [ft]	0.00	0.00	29.10	29.10	35.96	35.96
d_A, Approach Delay [s/veh]	0.00		0.79		16.20	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	3.74					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: S. Empire Dr/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.067

Intersection Setup

Name	Despina Dr		Despina Dr		S. Empire 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	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Despina Dr		Despina Dr		S. Empire Dr	
Base Volume Input [veh/h]	64	50	6	49	41	13
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	1.30	1.30	1.30	1.30	1.30	1.30
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]	83	65	8	64	53	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	16	2	16	13	4
Total Analysis Volume [veh/h]	83	65	8	64	53	17
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.07	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.53	0.00	9.97	9.25
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.16	0.16	0.28	0.28
95th-Percentile Queue Length [ft]	0.00	0.00	3.96	3.96	6.98	6.98
d_A, Approach Delay [s/veh]	0.00		0.84		9.80	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.57					
Intersection LOS	A					

Vineyard Crossing Subdivision W-Trans
Scenario 3: 3 PM Future

Intersection Level Of Service Report
Intersection 9: N. State St/S. Empire Dr-Ford Rd

Control Type:	Signalized	Delay (sec / veh):	24.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.611

Intersection Setup

Name	N State St			N State St			S Empire Dr			Ford Rd		
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]	190.00	100.00	100.00	160.00	100.00	100.00	100.00	100.00	100.00	120.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	N State St			N State St			S Empire Dr			Ford Rd		
Base Volume Input [veh/h]	39	376	60	55	571	149	242	39	51	73	24	44
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	5.00	7.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	13.00
Growth Rate	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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	13	0	0	27	0	0	11	0	0	13
Total Hourly Volume [veh/h]	51	489	65	72	742	167	315	51	55	95	31	44
Peak Hour 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
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]	13	122	16	18	186	42	79	13	14	24	8	11
Total Analysis Volume [veh/h]	51	489	65	72	742	167	315	51	55	95	31	44
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

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	20	0	19	30	0	32	34	0	17	19	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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

Vineyard Crossing Subdivision W-Trans
Scenario 3: 3 AM Future

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	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
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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	46	46	5	47	47	18	17	6	5
g / C, Green / Cycle	0.04	0.51	0.51	0.05	0.52	0.52	0.20	0.19	0.07	0.06
(v / s)_i Volume / Saturation Flow Rate	0.03	0.15	0.15	0.04	0.25	0.25	0.18	0.06	0.05	0.04
s, saturation flow rate [veh/h]	1774	1863	1787	1691	1863	1746	1774	1706	1774	1688
c, Capacity [veh/h]	72	946	908	93	973	912	358	324	123	98
d1, Uniform Delay [s]	42.68	12.85	12.86	42.02	13.74	13.74	34.91	31.51	41.21	41.85
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	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
d2, Incremental Delay [s]	11.87	0.81	0.85	12.74	1.71	1.83	7.08	0.58	9.73	11.89
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
Rp, platoon ratio	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

Lane Group Results

X, volume / capacity	0.71	0.30	0.30	0.77	0.48	0.48	0.88	0.33	0.77	0.77
d, Delay for Lane Group [s/veh]	54.55	13.66	13.71	54.75	15.46	15.57	41.99	32.09	50.95	53.73
Lane Group LOS	D	B	B	D	B	B	D	C	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	1.31	3.11	3.01	1.84	5.71	5.38	7.25	2.02	2.38	1.95
50th-Percentile Queue Length [ft]	32.78	77.70	75.29	45.98	142.69	134.45	181.26	50.43	59.52	48.65
95th-Percentile Queue Length [veh]	2.36	5.59	5.42	3.31	9.63	9.18	11.67	3.63	4.29	3.50
95th-Percentile Queue Length [ft]	59.01	139.86	135.52	82.76	240.64	229.53	291.66	90.77	107.13	87.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.55	13.68	13.71	54.75	15.50	15.57	41.99	32.09	32.09	50.95	53.73	53.73
Movement LOS	D	B	B	D	B	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	17.13			18.39			39.50			52.18		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	24.76											
Intersection LOS	C											
Intersection V/C	0.611											

Sequence

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

Intersection Level Of Service Report
Intersection 9: N. State St & S. Emipre Dr-Ford Rd

Control Type:	Signalized	Delay (sec / veh):	33.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.724

Intersection Setup

Name	N State St			N State St			S Empire Dr			Ford Rd		
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]	190.00	100.00	100.00	160.00	100.00	100.00	100.00	100.00	100.00	120.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	N State St			N State St			S Empire Dr			Ford Rd		
Base Volume Input [veh/h]	95	721	145	33	552	167	230	57	50	91	64	70
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	5.00	7.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	13.00
Growth Rate	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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	13	0	0	27	0	0	11	0	0	13
Total Hourly Volume [veh/h]	124	937	176	43	718	190	299	74	54	118	83	78
Peak Hour 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
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]	31	234	44	11	180	48	75	19	14	30	21	20
Total Analysis Volume [veh/h]	124	937	176	43	718	190	299	74	54	118	83	78
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

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	20	0	19	30	0	32	34	0	17	19	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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

Vineyard Crossing Subdivision W-Trans
Scenario 3: 3 PM Future

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	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
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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	43	43	3	41	41	17	20	8	10
g / C, Green / Cycle	0.06	0.48	0.48	0.04	0.46	0.46	0.19	0.22	0.08	0.12
(v / s)_i Volume / Saturation Flow Rate	0.07	0.31	0.31	0.03	0.25	0.25	0.17	0.07	0.07	0.09
s, saturation flow rate [veh/h]	1774	1863	1762	1691	1863	1730	1774	1734	1774	1716
c, Capacity [veh/h]	99	888	840	63	853	792	342	388	150	199
d1, Uniform Delay [s]	42.52	17.79	17.82	42.84	17.71	17.71	35.31	29.30	40.44	38.87
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	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
d2, Incremental Delay [s]	128.35	3.57	3.81	12.18	2.57	2.76	7.06	0.49	8.76	7.70
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
Rp, platoon ratio	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

Lane Group Results

X, volume / capacity	1.25	0.64	0.65	0.68	0.55	0.55	0.87	0.33	0.79	0.81
d, Delay for Lane Group [s/veh]	170.87	21.36	21.63	55.01	20.28	20.47	42.37	29.79	49.19	46.57
Lane Group LOS	F	C	C	E	C	C	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	5.66	8.70	8.33	1.12	6.89	6.44	6.90	2.34	2.90	3.84
50th-Percentile Queue Length [ft]	141.42	217.55	208.24	27.97	172.26	161.07	172.44	58.46	72.39	96.08
95th-Percentile Queue Length [veh]	10.13	13.54	13.06	2.01	11.20	10.61	11.20	4.21	5.21	6.92
95th-Percentile Queue Length [ft]	253.31	338.50	326.57	50.35	279.89	265.14	280.12	105.24	130.31	172.94

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	170.87	21.46	21.63	55.01	20.34	20.47	42.37	29.79	29.79	49.19	46.57	46.57
Movement LOS	F	C	C	E	C	C	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	36.46			21.94			38.60			47.68		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	33.09											
Intersection LOS	C											
Intersection V/C	0.724											

Sequence

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

Intersection Level Of Service Report
Intersection 1: N. State St/Orr Springs Rd

Control Type:	Two-way stop	Delay (sec / veh):	36.1
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	N. State St			N State St						Hollow Tree Creek Rd		
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	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	140.00	100.00	100.00	100.00	100.00	130.00	100.00	100.00	25.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	N. State St			N State St						Hollow Tree Creek Rd		
Base Volume Input [veh/h]	74	525	5	2	375	32	17	1	79	0	0	0
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	7	0	0	2	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
Total Hourly Volume [veh/h]	74	532	5	2	377	32	17	1	79	0	0	0
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
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]	21	151	1	1	107	9	5	0	22	0	0	0
Total Analysis Volume [veh/h]	84	605	6	2	428	36	19	1	90	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane										No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							Yes			No		
Number of Storage Spaces in Median	0			0			1			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.01	0.00	0.00	0.00	0.00	0.07	0.00	0.14	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.55	0.00	0.00	8.73	0.00	0.00	19.62	19.27	11.70	36.09	27.44	12.26
Movement LOS	A	A	A	A	A	A	C	C	B	E	D	B
95th-Percentile Queue Length [veh]	0.25	0.00	0.00	2.32	2.32	0.00	0.24	0.24	0.50	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	6.21	0.00	0.00	57.95	57.95	0.00	6.04	6.04	12.48	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	1.03			0.04			13.14			25.26		
Approach LOS	A			A			B			D		
d_I, Intersection Delay [s/veh]	1.72											
Intersection LOS	E											

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 AM Existing + Project

Intersection Level Of Service Report
Intersection 1: N. State St/Orr Springs Rd

Control Type:	Two-way stop	Delay (sec / veh):	47.8
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	N. State St			N State St			Orr Springs Rd			Hollow Tree Creek Rd		
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	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	140.00	100.00	100.00	100.00	100.00	130.00	100.00	100.00	25.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	N. State St			N State St			Orr Springs Rd			Hollow Tree Creek Rd		
Base Volume Input [veh/h]	66	603	2	0	558	29	28	0	93	0	0	0
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	5	0	0	8	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
Total Hourly Volume [veh/h]	66	608	2	0	566	29	28	0	93	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	160	1	0	149	8	7	0	24	0	0	0
Total Analysis Volume [veh/h]	69	640	2	0	596	31	29	0	98	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane										No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							Yes			No		
Number of Storage Spaces in Median	0			0			1			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.01	0.00	0.00	0.01	0.00	0.12	0.00	0.19	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.06	0.00	0.00	8.82	0.00	0.00	22.14	21.54	13.87	47.78	32.89	12.58
Movement LOS	A	A	A	A	A	A	C	C	B	E	D	B
95th-Percentile Queue Length [veh]	0.23	0.00	0.00	0.00	0.00	0.00	0.41	0.41	0.71	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	5.83	0.00	0.00	0.00	0.00	0.00	10.20	10.20	17.87	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.88			0.00			15.76			31.08		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	1.79											
Intersection LOS	E											

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 PM Existing + Project

Intersection Level Of Service Report
Intersection 2: N. State St/US 101 N. Ramps

Control Type:	Two-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.337

Intersection Setup

Name	N State St		N State St		US 101 N Ramps	
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	1	1	0	0	0
Pocket Length [ft]	100.00	200.00	105.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 N Ramps	
Base Volume Input [veh/h]	432	209	20	487	154	186
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	8.00	5.00	7.00	6.00	6.00
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]	7	0	0	2	1	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]	439	209	20	489	155	186
Peak Hour Factor	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	117	56	5	130	41	50
Total Analysis Volume [veh/h]	469	223	21	522	165	199
Pedestrian Volume [ped/h]	0		0		2	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
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	0.01	0.34	0.26
d_M, Delay for Movement [s/veh]	0.00	0.00	9.21	0.00	16.05	11.51
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.07	0.00	1.47	1.06
95th-Percentile Queue Length [ft]	0.00	0.00	1.84	0.00	36.81	26.61
d_A, Approach Delay [s/veh]	0.00		0.36		13.57	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.21					
Intersection LOS	C					

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 AM Existing + Project

Intersection Level Of Service Report
Intersection 2: N. State St/US 101 N. Ramps

Control Type:	Two-way stop	Delay (sec / veh):	37.1
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

Intersection Setup

Name	N State St		N State St		US 101 N Ramps	
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	1	1	0	0	0
Pocket Length [ft]	100.00	200.00	105.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 N Ramps	
Base Volume Input [veh/h]	564	409	34	682	240	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	8.00	5.00	7.00	6.00	6.00
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]	5	0	0	8	4	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]	569	409	34	690	244	151
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	158	114	9	192	68	42
Total Analysis Volume [veh/h]	632	454	38	767	271	168
Pedestrian Volume [ped/h]	0		0		2	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
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	0.73	0.25
d_M, Delay for Movement [s/veh]	0.00	0.00	11.20	0.00	37.11	12.24
Movement LOS	A	A	B	A	E	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.20	0.00	5.63	1.00
95th-Percentile Queue Length [ft]	0.00	0.00	4.90	0.00	140.83	24.96
d_A, Approach Delay [s/veh]	0.00		0.53		27.59	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	5.38					
Intersection LOS	E					

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 PM Existing + Project

Intersection Level Of Service Report
Intersection 3: N. State St & US 101 South Off-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	37.8
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.186

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	0	631	639	0	22	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	5.00	7.00	2.00	9.00	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	24	3	0	0	6
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]	0	655	642	0	22	407
Peak Hour Factor	1.0000	0.8870	0.8870	1.0000	0.8870	0.8870
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	185	181	0	6	115
Total Analysis Volume [veh/h]	0	738	724	0	25	459
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.19	0.72
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	37.78	23.79
Movement LOS		A	A		E	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.65	6.06
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	16.34	151.58
d_A, Approach Delay [s/veh]	0.00		0.00		24.51	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	6.10					
Intersection LOS	E					

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 AM Existing + Project

Intersection Level Of Service Report
Intersection 3: N. State St & US 101 South Off-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	83.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.307

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
Approach	Northbound		Southbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	0	956	908	0	18	324
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	5.00	7.00	2.00	9.00	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	16	12	0	0	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]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	972	920	0	18	343
Peak Hour Factor	1.0000	0.9000	0.9000	1.0000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	270	256	0	5	95
Total Analysis Volume [veh/h]	0	1080	1022	0	20	381
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.31	0.75
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	83.14	30.00
Movement LOS		A	A		F	D
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.11	6.34
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	27.78	158.60
d_A, Approach Delay [s/veh]	0.00		0.00		32.65	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	5.23					
Intersection LOS	F					

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 PM Existing + Project

Intersection Level Of Service Report
Intersection 4: N. State St & US 101 South On-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.202

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
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	1	1	0	0	0
Pocket Length [ft]	100.00	45.00	105.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	624	181	125	912	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	14.00	3.00	5.00	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]	24	3	0	9	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]	648	184	125	921	0	0
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	184	52	36	262	0	0
Total Analysis Volume [veh/h]	736	209	142	1047	0	0
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.20	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	11.41	0.00	0.00	0.00
Movement LOS	A	A	B	A		
95th-Percentile Queue Length [veh]	0.00	0.00	0.75	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	18.77	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		1.36		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.76					
Intersection LOS	B					

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 AM Existing + Project

Intersection Level Of Service Report
Intersection 4: N. State St & US 101 South On-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	18.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
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	1	1	0	0	0
Pocket Length [ft]	100.00	45.00	105.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	962	223	216	1015	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	14.00	3.00	5.00	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]	16	2	0	31	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]	978	225	216	1046	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	272	63	60	291	0	0
Total Analysis Volume [veh/h]	1087	250	240	1162	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.48	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	18.87	0.00	0.00	0.00
Movement LOS	A	A	C	A		
95th-Percentile Queue Length [veh]	0.00	0.00	2.60	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	65.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.23		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.65					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 5: Lovers Ln/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Despina Dr		Lovers Ln		Lovers Ln	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Despina Dr		Lovers Ln		Lovers Ln	
Base Volume Input [veh/h]	2	27	3	2	107	2
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	2	0	0	7	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]	2	29	3	2	114	2
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	8	1	1	32	1
Total Analysis Volume [veh/h]	2	33	3	2	130	2
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.08	0.00
d_M, Delay for Movement [s/veh]	10.53	8.45	0.00	0.00	7.42	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.10	0.10	0.00	0.00	0.27	0.27
95th-Percentile Queue Length [ft]	2.60	2.60	0.00	0.00	6.66	6.66
d_A, Approach Delay [s/veh]	8.57		0.00		7.31	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.35					
Intersection LOS	B					

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 AM Existing + Project

Intersection Level Of Service Report
Intersection 5: Lovers Ln/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Despina Dr		Lovers Ln		Lovers Ln	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Despina Dr		Lovers Ln		Lovers Ln	
Base Volume Input [veh/h]	1	16	3	3	23	5
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	8	0	0	5	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]	1	24	3	3	28	5
Peak Hour Factor	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
Total 15-Minute Volume [veh/h]	0	7	1	1	8	1
Total Analysis Volume [veh/h]	1	26	3	3	31	5
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	9.02	8.42	0.00	0.00	7.27	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.08	0.08	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft]	1.94	1.94	0.00	0.00	1.71	1.71
d_A, Approach Delay [s/veh]	8.45		0.00		6.26	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.57					
Intersection LOS	A					

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 PM Existing + Project

Intersection Level Of Service Report
Intersection 6: N. Lovers Ln/Kuki Rd

Control Type:	Two-way stop	Delay (sec / veh):	17.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.372

Intersection Setup

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
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	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
Base Volume Input [veh/h]	0	1	6	85	2	0	0	162	5	4	198	180
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	61	0	0	0	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	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	6	146	2	0	0	162	5	4	198	201
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
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]	0	0	2	41	1	0	0	46	1	1	56	57
Total Analysis Volume [veh/h]	0	1	7	166	2	0	0	184	6	5	225	228
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.03	14.37	9.26	17.85	17.84	14.91	8.25	0.00	0.00	7.61	0.00	0.00
Movement LOS	B	B	A	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.03	0.03	1.73	1.73	1.73	0.00	0.00	0.00	1.47	1.47	1.47
95th-Percentile Queue Length [ft]	0.82	0.82	0.82	43.13	43.13	43.13	0.00	0.00	0.00	36.64	36.64	36.64
d_A, Approach Delay [s/veh]	9.90			17.85			0.00			0.08		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	3.78											
Intersection LOS	C											

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 AM Existing + Project

Intersection Level Of Service Report
Intersection 6: Lovers Ln/Kuki Rd

Control Type:	Two-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
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	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
Base Volume Input [veh/h]	1	2	8	77	2	11	0	121	2	10	126	122
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	40	0	0	0	0	0	0	0	69
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
Total Hourly Volume [veh/h]	1	2	8	117	2	11	0	121	2	10	126	191
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
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]	0	1	2	33	1	3	0	34	1	3	36	54
Total Analysis Volume [veh/h]	1	2	9	133	2	13	0	138	2	11	143	217
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.25	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	11.88	12.99	9.04	14.14	14.27	11.97	8.00	0.00	0.00	7.51	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.05	0.05	0.05	1.08	1.08	1.08	0.00	0.00	0.00	1.03	1.03	1.03
95th-Percentile Queue Length [ft]	1.23	1.23	1.23	27.07	27.07	27.07	0.00	0.00	0.00	25.75	25.75	25.75
d_A, Approach Delay [s/veh]	9.93			13.95			0.00			0.22		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	3.38											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 7: N. State St/Kuki Rd

Control Type:	Signalized	Delay (sec / veh):	11.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.502

Intersection Setup

Name	N State St			N State St			Kuki Rd			Driveway		
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	1	0	0	1	1	0	0
Pocket Length [ft]	150.00	100.00	100.00	180.00	100.00	150.00	100.00	100.00	70.00	25.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	N State St			N State St			Kuki Rd			Driveway		
Base Volume Input [veh/h]	53	685	9	43	816	325	190	4	56	6	5	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]	12	0	0	0	0	9	27	0	34	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]	65	685	9	43	816	334	217	4	90	6	5	37
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
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]	18	195	3	12	232	95	62	1	26	2	1	11
Total Analysis Volume [veh/h]	74	778	10	49	927	380	247	5	102	7	6	42
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	49	0	21	38	0	0	31	0	0	31	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 AM Existing + Project

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	L	C
C, Cycle Length [s]	42	42	42	42	42	42	42	42	42	42
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	14	14	2	15	15	13	13	13	13
g / C, Green / Cycle	0.07	0.33	0.33	0.05	0.35	0.35	0.31	0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.04	0.21	0.21	0.03	0.26	0.24	0.24	0.06	0.00	0.03
s, saturation flow rate [veh/h]	1774	1863	1854	1774	3547	1583	1048	1583	1405	1614
c, Capacity [veh/h]	122	619	617	92	1240	553	497	493	198	503
d1, Uniform Delay [s]	18.44	9.68	9.68	18.97	9.65	9.36	14.78	10.59	20.25	10.21
k, delay calibration	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	4.77	1.10	1.10	4.73	0.92	1.52	0.80	0.21	0.07	0.08
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
Rp, platoon ratio	1.33	1.33	1.33	1.33	1.33	1.33	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

Lane Group Results

X, volume / capacity	0.61	0.64	0.64	0.53	0.75	0.69	0.51	0.21	0.04	0.10
d, Delay for Lane Group [s/veh]	23.21	10.78	10.78	23.70	10.57	10.89	15.58	10.79	20.32	10.29
Lane Group LOS	C	B	B	C	B	B	B	B	C	B
Critical Lane Group	No	No	No	Yes	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh]	0.71	1.87	1.86	0.49	2.10	1.79	1.95	0.59	0.06	0.26
50th-Percentile Queue Length [ft]	17.73	46.69	46.51	12.25	52.40	44.69	48.78	14.66	1.60	6.62
95th-Percentile Queue Length [veh]	1.28	3.36	3.35	0.88	3.77	3.22	3.51	1.06	0.12	0.48
95th-Percentile Queue Length [ft]	31.91	84.05	83.71	22.06	94.32	80.45	87.80	26.39	2.88	11.92

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.21	10.78	10.78	23.70	10.57	10.89	15.58	15.58	10.79	20.32	10.29	10.29
Movement LOS	C	B	B	C	B	B	B	B	B	C	B	B
d_A, Approach Delay [s/veh]	11.85			11.14			14.20			11.57		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	11.79											
Intersection LOS	B											
Intersection V/C	0.502											

Sequence

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

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 AM Existing + Project

Intersection Level Of Service Report
Intersection 7: N. State St/Kuki Rd

Control Type:	Signalized	Delay (sec / veh):	18.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.573

Intersection Setup

Name	N State St			N State St			Kuki Rd			Driveway		
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	1	0	0	1	1	0	0
Pocket Length [ft]	150.00	100.00	100.00	180.00	100.00	150.00	100.00	100.00	70.00	25.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	N State St			N State St			Kuki Rd			Driveway		
Base Volume Input [veh/h]	66	922	73	195	701	167	121	24	57	43	25	202
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]	38	0	0	0	0	31	18	0	22	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]	104	922	73	195	701	198	139	24	79	43	25	202
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	243	19	51	184	52	37	6	21	11	7	53
Total Analysis Volume [veh/h]	109	971	77	205	738	208	146	25	83	45	26	213
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	49	0	21	38	0	0	31	0	0	31	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 PM Existing + Project

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	L	C
C, Cycle Length [s]	55	55	55	55	55	55	55	55	55	55
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	18	18	8	15	15	20	20	20	20
g / C, Green / Cycle	0.08	0.33	0.33	0.15	0.27	0.27	0.37	0.37	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.06	0.28	0.29	0.12	0.21	0.13	0.23	0.05	0.03	0.15
s, saturation flow rate [veh/h]	1774	1863	1815	1774	3547	1583	755	1583	1380	1610
c, Capacity [veh/h]	145	625	609	266	947	423	397	579	226	589
d1, Uniform Delay [s]	24.09	14.05	14.05	21.21	16.36	14.89	18.62	11.73	24.76	13.06
k, delay calibration	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	7.58	3.35	3.45	4.66	1.43	0.89	0.74	0.11	0.43	0.45
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
Rp, platoon ratio	1.33	1.33	1.33	1.33	1.33	1.33	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

Lane Group Results

X, volume / capacity	0.75	0.85	0.85	0.77	0.78	0.49	0.43	0.14	0.20	0.41
d, Delay for Lane Group [s/veh]	31.68	17.39	17.50	25.87	17.80	15.77	19.36	11.84	25.18	13.51
Lane Group LOS	C	B	B	C	B	B	B	B	C	B
Critical Lane Group	Yes	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh]	1.49	4.44	4.35	2.40	3.25	1.70	1.86	0.62	0.56	1.99
50th-Percentile Queue Length [ft]	37.31	110.96	108.67	60.03	81.29	42.48	46.54	15.42	13.92	49.80
95th-Percentile Queue Length [veh]	2.69	7.89	7.77	4.32	5.85	3.06	3.35	1.11	1.00	3.59
95th-Percentile Queue Length [ft]	67.15	197.34	194.15	108.06	146.32	76.47	83.77	27.75	25.05	89.63

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.68	17.44	17.50	25.87	17.80	15.77	19.36	19.36	11.84	25.18	13.51	13.51
Movement LOS	C	B	B	C	B	B	B	B	B	C	B	B
d_A, Approach Delay [s/veh]	18.79			18.87			16.90			15.36		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	18.31											
Intersection LOS	B											
Intersection V/C	0.573											

Sequence

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

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 PM Existing + Project

Intersection Level Of Service Report
Intersection 7: N. State St/Kuki Rd

Control Type:	Signalized	Delay (sec / veh):	17.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.602

Intersection Setup

Name	N State St			N State St			Kuki Rd			Driveway		
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	1	0	0	1	1	0	0
Pocket Length [ft]	150.00	100.00	100.00	180.00	100.00	150.00	100.00	100.00	70.00	25.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	N State St			N State St			Kuki Rd			Driveway		
Base Volume Input [veh/h]	76	812	48	145	649	157	166	13	30	27	18	151
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]	38	0	0	0	0	31	18	0	22	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]	114	812	48	145	649	188	184	13	52	27	18	151
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]	32	228	13	41	182	53	52	4	15	8	5	42
Total Analysis Volume [veh/h]	128	912	54	163	729	211	207	15	58	30	20	170
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	49	0	21	38	0	0	31	0	0	31	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	R	C	R	L	C
C, Cycle Length [s]	55	55	55	55	55	55	55	55	55	55
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	18	18	9	14	14	20	20	20	20
g / C, Green / Cycle	0.10	0.33	0.33	0.16	0.26	0.26	0.36	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.07	0.26	0.26	0.09	0.21	0.13	0.27	0.04	0.02	0.12
s, saturation flow rate [veh/h]	1774	1863	1826	1774	3547	1583	830	1583	1393	1609
c, Capacity [veh/h]	171	610	598	282	939	419	424	566	199	575
d1, Uniform Delay [s]	23.25	13.91	13.91	19.96	16.29	14.90	19.05	11.75	25.38	12.84
k, delay calibration	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	6.36	2.49	2.54	1.87	1.42	0.94	1.01	0.08	0.35	0.33
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
Rp, platoon ratio	1.33	1.33	1.33	1.33	1.33	1.33	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

Lane Group Results

X, volume / capacity	0.75	0.80	0.80	0.58	0.78	0.50	0.52	0.10	0.15	0.33
d, Delay for Lane Group [s/veh]	29.61	16.39	16.45	21.83	17.71	15.84	20.06	11.83	25.72	13.17
Lane Group LOS	C	B	B	C	B	B	C	B	C	B
Critical Lane Group	Yes	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh]	1.66	3.93	3.86	1.69	3.18	1.72	2.46	0.43	0.37	1.53
50th-Percentile Queue Length [ft]	41.43	98.20	96.53	42.30	79.62	43.01	61.41	10.66	9.36	38.37
95th-Percentile Queue Length [veh]	2.98	7.07	6.95	3.05	5.73	3.10	4.42	0.77	0.67	2.76
95th-Percentile Queue Length [ft]	74.57	176.76	173.75	76.14	143.32	77.42	110.54	19.19	16.85	69.06

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.61	16.42	16.45	21.83	17.71	15.84	20.06	20.06	11.83	25.72	13.17	13.17
Movement LOS	C	B	B	C	B	B	C	C	B	C	B	B
d_A, Approach Delay [s/veh]	17.96			17.96			18.35			14.88		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	17.75											
Intersection LOS	B											
Intersection V/C	0.602											

Sequence

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

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 Mid-Afternoon Existing + Project

Intersection Level Of Service Report
Intersection 8: S. Empire Dr/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	14.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.258

Intersection Setup

Name	Despina Dr		Despina Dr		S. Empire 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	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Despina Dr		Despina Dr		S. Empire Dr	
Base Volume Input [veh/h]	58	121	29	260	116	6
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]	2	0	0	7	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]	60	121	29	267	116	6
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	34	8	76	33	2
Total Analysis Volume [veh/h]	68	138	33	303	132	7
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.26	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.70	0.00	14.53	11.43
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.97	0.97	1.06	1.06
95th-Percentile Queue Length [ft]	0.00	0.00	24.30	24.30	26.60	26.60
d_A, Approach Delay [s/veh]	0.00		0.76		14.37	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.31					
Intersection LOS	B					

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 AM Existing + Project

Intersection Level Of Service Report
Intersection 8: S. Empire Dr/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.059

Intersection Setup

Name	Despina Dr		Despina Dr		S. Empire 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	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Despina Dr		Despina Dr		S. Empire Dr	
Base Volume Input [veh/h]	64	50	6	49	41	13
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]	8	0	0	5	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]	72	50	6	54	41	13
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	14	2	15	12	4
Total Analysis Volume [veh/h]	82	57	7	61	47	15
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.06	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	9.85	9.17
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.15	0.15	0.24	0.24
95th-Percentile Queue Length [ft]	0.00	0.00	3.70	3.70	6.04	6.04
d_A, Approach Delay [s/veh]	0.00		0.77		9.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.43					
Intersection LOS	A					

Vineyard Crossing Subdivision W-Trans
Scenario 2: 2 PM Existing + Project

Intersection Level Of Service Report
Intersection 9: N. State St/S. Empire Dr-Ford Rd

Control Type:	Signalized	Delay (sec / veh):	22.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.530

Intersection Setup

Name	N State St			N State St			S Empire Dr			Ford Rd		
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]	190.00	100.00	100.00	160.00	100.00	100.00	100.00	100.00	100.00	120.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	N State St			N State St			S Empire Dr			Ford Rd		
Base Volume Input [veh/h]	39	376	60	55	571	149	242	39	51	73	24	44
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	5.00	7.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	13.00
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	12	0	0	34	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	13	0	0	27	0	0	11	0	0	13
Total Hourly Volume [veh/h]	39	388	47	55	605	122	242	39	40	73	24	31
Peak Hour Factor	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990
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]	11	108	13	15	168	34	67	11	11	20	7	9
Total Analysis Volume [veh/h]	43	432	52	61	673	136	269	43	44	81	27	34
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

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	20	0	19	30	0	32	34	0	17	19	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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	C	L	C	C	L	C	L	C
C, Cycle Length [s]	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
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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	50	50	4	51	51	16	15	5	4
g / C, Green / Cycle	0.04	0.55	0.55	0.05	0.56	0.56	0.18	0.16	0.06	0.05
(v / s)_i Volume / Saturation Flow Rate	0.02	0.13	0.13	0.04	0.22	0.22	0.15	0.05	0.05	0.04
s, saturation flow rate [veh/h]	1774	1863	1794	1691	1863	1755	1774	1710	1774	1696
c, Capacity [veh/h]	66	1031	992	79	1048	987	312	279	106	79
d1, Uniform Delay [s]	42.78	10.35	10.37	42.48	11.10	11.10	36.07	33.26	41.73	42.45
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	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
d2, Incremental Delay [s]	10.25	0.55	0.57	14.87	1.13	1.20	7.04	0.63	10.82	14.27
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
Rp, platoon ratio	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

Lane Group Results

X, volume / capacity	0.65	0.24	0.24	0.78	0.40	0.40	0.86	0.31	0.76	0.77
d, Delay for Lane Group [s/veh]	53.03	10.90	10.94	57.35	12.23	12.30	43.11	33.89	52.55	56.72
Lane Group LOS	D	B	B	E	B	B	D	C	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	1.09	2.30	2.24	1.61	4.27	4.05	6.23	1.70	2.07	1.64
50th-Percentile Queue Length [ft]	27.32	57.55	56.07	40.23	106.79	101.20	155.87	42.62	51.76	41.04
95th-Percentile Queue Length [veh]	1.97	4.14	4.04	2.90	7.66	7.29	10.33	3.07	3.73	2.95
95th-Percentile Queue Length [ft]	49.17	103.59	100.93	72.41	191.53	182.15	258.24	76.71	93.17	73.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.03	10.92	10.94	57.35	12.26	12.30	43.11	33.89	33.89	52.55	56.72	56.72
Movement LOS	D	B	B	E	B	B	D	C	C	D	E	E
d_A, Approach Delay [s/veh]	14.35			15.43			40.86			54.34		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.82											
Intersection LOS	C											
Intersection V/C	0.530											

Sequence

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

Intersection Level Of Service Report
Intersection 9: N. State St & S. Emipre Dr-Ford Rd

Control Type:	Signalized	Delay (sec / veh):	26.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

Intersection Setup

Name	N State St			N State St			S Empire Dr			Ford Rd		
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]	190.00	100.00	100.00	160.00	100.00	100.00	100.00	100.00	100.00	120.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	N State St			N State St			S Empire Dr			Ford Rd		
Base Volume Input [veh/h]	95	721	145	33	552	167	230	57	50	91	64	70
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	5.00	7.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	13.00
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	38	0	0	22	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	13	0	0	27	0	0	11	0	0	13
Total Hourly Volume [veh/h]	95	759	132	33	574	140	230	57	39	91	64	57
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
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]	26	211	37	9	159	39	64	16	11	25	18	16
Total Analysis Volume [veh/h]	106	843	147	37	638	156	256	63	43	101	71	63
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

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	20	0	19	30	0	32	34	0	17	19	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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	C	L	C	C	L	C	L	C
C, Cycle Length [s]	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
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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	47	47	3	45	45	15	17	7	9
g / C, Green / Cycle	0.06	0.52	0.52	0.03	0.50	0.50	0.17	0.19	0.07	0.10
(v / s)_i Volume / Saturation Flow Rate	0.06	0.27	0.27	0.02	0.22	0.22	0.14	0.06	0.06	0.08
s, saturation flow rate [veh/h]	1774	1863	1768	1691	1863	1738	1774	1738	1774	1720
c, Capacity [veh/h]	99	971	922	58	931	868	299	336	130	169
d1, Uniform Delay [s]	42.52	14.19	14.19	42.95	14.47	14.47	36.41	31.22	41.00	39.71
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	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
d2, Incremental Delay [s]	60.70	2.01	2.12	11.13	1.52	1.63	7.04	0.53	9.40	8.03
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
Rp, platoon ratio	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

Lane Group Results

X, volume / capacity	1.07	0.52	0.52	0.64	0.44	0.44	0.86	0.32	0.77	0.79
d, Delay for Lane Group [s/veh]	103.22	16.20	16.31	54.08	15.99	16.10	43.45	31.75	50.41	47.74
Lane Group LOS	F	B	B	D	B	B	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	3.79	6.40	6.10	0.96	5.09	4.79	5.95	2.00	2.51	3.24
50th-Percentile Queue Length [ft]	94.70	159.88	152.58	23.96	127.37	119.72	148.67	50.07	62.86	80.92
95th-Percentile Queue Length [veh]	6.82	10.54	10.15	1.72	8.80	8.38	9.95	3.60	4.53	5.83
95th-Percentile Queue Length [ft]	170.47	263.56	253.87	43.12	219.91	209.44	248.65	90.12	113.15	145.66

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	103.22	16.24	16.31	54.08	16.03	16.10	43.45	31.75	31.75	50.41	47.74	47.74
Movement LOS	F	B	B	D	B	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	24.66			17.74			40.02			48.89		
Approach LOS	C			B			D			D		
d_I, Intersection Delay [s/veh]	26.84											
Intersection LOS	C											
Intersection V/C	0.629											

Sequence

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

Intersection Level Of Service Report
Intersection 1: N. State St/Orr Springs Rd

Control Type:	Two-way stop	Delay (sec / veh):	49.1
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	N. State St			N State St						Hollow Tree Creek Rd		
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	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	140.00	100.00	100.00	100.00	100.00	130.00	100.00	100.00	25.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	N. State St			N State St						Hollow Tree Creek Rd		
Base Volume Input [veh/h]	74	525	5	2	375	32	17	1	79	0	0	0
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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	0	0	2	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
Total Hourly Volume [veh/h]	96	690	7	3	490	42	22	1	103	0	0	0
Peak Hour 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
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	173	2	1	123	11	6	0	26	0	0	0
Total Analysis Volume [veh/h]	96	690	7	3	490	42	22	1	103	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane										No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							Yes			No		
Number of Storage Spaces in Median	0			0			1			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.01	0.00	0.00	0.00	0.00	0.10	0.00	0.18	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.83	0.00	0.00	9.02	0.00	0.00	22.90	22.24	12.57	49.07	34.36	13.13
Movement LOS	A	A	A	A	A	A	C	C	B	E	D	B
95th-Percentile Queue Length [veh]	0.31	0.00	0.00	3.41	3.41	0.00	0.34	0.34	0.64	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	7.64	0.00	0.00	85.30	85.30	0.00	8.45	8.45	16.08	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	1.07			0.05			14.45			32.18		
Approach LOS	A			A			B			D		
d_I, Intersection Delay [s/veh]	1.85											
Intersection LOS	E											

Vineyard Crossing Subdivision W-Trans
Scenario 4: 4 AM Future + Project

Intersection Level Of Service Report
Intersection 1: N. State St/Orr Springs Rd

Control Type:	Two-way stop	Delay (sec / veh):	90.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	N. State St			N State St			Orr Springs Rd			Hollow Tree Creek Rd		
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	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	140.00	100.00	100.00	100.00	100.00	130.00	100.00	100.00	25.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	N. State St			N State St			Orr Springs Rd			Hollow Tree Creek Rd		
Base Volume Input [veh/h]	66	603	2	0	558	29	28	0	93	0	0	0
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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	0	0	8	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
Total Hourly Volume [veh/h]	86	789	3	0	733	38	36	0	121	0	0	0
Peak Hour 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
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	197	1	0	183	10	9	0	30	0	0	0
Total Analysis Volume [veh/h]	86	789	3	0	733	38	36	0	121	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane										No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							Yes			No		
Number of Storage Spaces in Median	0			0			1			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.01	0.00	0.00	0.01	0.00	0.20	0.00	0.29	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.75	0.00	0.00	9.34	0.00	0.00	30.25	28.94	16.98	90.12	50.69	14.23
Movement LOS	A	A	A	A	A	A	D	D	C	F	F	B
95th-Percentile Queue Length [veh]	0.34	0.00	0.00	0.00	0.00	0.00	0.73	0.73	1.17	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	8.48	0.00	0.00	0.00	0.00	0.00	18.24	18.24	29.37	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.96			0.00			20.02			51.68		
Approach LOS	A			A			C			F		
d_I, Intersection Delay [s/veh]	2.20											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 2: N. State St/US 101 N. Ramps

Control Type:	Two-way stop	Delay (sec / veh):	20.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.473

Intersection Setup

Name	N State St		N State St		US 101 N Ramps	
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	1	1	0	0	0
Pocket Length [ft]	100.00	200.00	105.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 N Ramps	
Base Volume Input [veh/h]	432	209	20	487	154	186
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	8.00	5.00	7.00	6.00	6.00
Growth Rate	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	2	1	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]	569	272	26	635	201	242
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	142	68	7	159	50	61
Total Analysis Volume [veh/h]	569	272	26	635	201	242
Pedestrian Volume [ped/h]	0		0		2	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
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	0.47	0.35
d_M, Delay for Movement [s/veh]	0.00	0.00	9.85	0.00	20.87	12.89
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.10	0.00	2.48	1.55
95th-Percentile Queue Length [ft]	0.00	0.00	2.62	0.00	61.93	38.82
d_A, Approach Delay [s/veh]	0.00		0.39		16.51	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	3.89					
Intersection LOS	C					

Vineyard Crossing Subdivision W-Trans
Scenario 4: 4 AM Future + Project

Intersection Level Of Service Report
Intersection 2: N. State St/US 101 N. Ramps

Control Type:	Two-way stop	Delay (sec / veh):	89.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.004

Intersection Setup

Name	N State St		N State St		US 101 N Ramps	
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	1	1	0	0	0
Pocket Length [ft]	100.00	200.00	105.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 N Ramps	
Base Volume Input [veh/h]	564	409	34	682	240	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	8.00	5.00	7.00	6.00	6.00
Growth Rate	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	8	4	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]	738	532	44	895	316	196
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	185	133	11	224	79	49
Total Analysis Volume [veh/h]	738	532	44	895	316	196
Pedestrian Volume [ped/h]	0		0		2	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
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	0.01	0.08	0.01	1.00	0.32
d_M, Delay for Movement [s/veh]	0.00	0.00	12.49	0.00	89.14	13.59
Movement LOS	A	A	B	A	F	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.27	0.00	10.96	1.37
95th-Percentile Queue Length [ft]	0.00	0.00	6.83	0.00	273.98	34.29
d_A, Approach Delay [s/veh]	0.00		0.59		60.22	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	11.53					
Intersection LOS	F					

Vineyard Crossing Subdivision W-Trans
Scenario 6: 6 PM Future + Project

Intersection Level Of Service Report
Intersection 2: N. State St/US 101 N. Ramps

Control Type:	Two-way stop	Delay (sec / veh):	25.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.537

Intersection Setup

Name	N State St		N State St		US 101 N Ramps	
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	1	1	0	0	0
Pocket Length [ft]	100.00	200.00	105.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 N Ramps	
Base Volume Input [veh/h]	432	209	20	487	154	186
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	8.00	5.00	7.00	6.00	6.00
Growth Rate	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	2	1	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]	569	272	26	635	201	242
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	142	68	7	159	50	61
Total Analysis Volume [veh/h]	569	272	26	635	201	242
Pedestrian Volume [ped/h]	0		0		2	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
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	0.54	0.47
d_M, Delay for Movement [s/veh]	0.00	0.00	9.78	0.00	25.20	18.07
Movement LOS	A	A	A	A	D	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.10	0.00	3.05	2.49
95th-Percentile Queue Length [ft]	0.00	0.00	2.59	0.00	76.14	62.15
d_A, Approach Delay [s/veh]	0.00		0.38		21.31	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	4.98					
Intersection LOS	D					

Vineyard Crossing Subdivision W-Trans
Scenario 8: 8 AM Future + Project - Caltrans Ramp Improvements

Intersection Level Of Service Report
Intersection 2: N. State St/US 101 N. Ramps

Control Type:	Two-way stop	Delay (sec / veh):	82.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.983

Intersection Setup

Name	N State St		N State St		US 101 N Ramps	
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	1	1	0	0	0
Pocket Length [ft]	100.00	200.00	105.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 N Ramps	
Base Volume Input [veh/h]	564	409	34	682	240	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	8.00	2.00	2.00	3.00	5.00
Growth Rate	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	8	4	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]	738	532	44	895	316	196
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	185	133	11	224	79	49
Total Analysis Volume [veh/h]	738	532	44	895	316	196
Pedestrian Volume [ped/h]	0		0		2	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	7

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.08	0.01	0.98	0.47
d_M, Delay for Movement [s/veh]	0.00	0.00	12.18	0.00	82.85	21.35
Movement LOS	A	A	B	A	F	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.26	0.00	10.55	2.48
95th-Percentile Queue Length [ft]	0.00	0.00	6.56	0.00	263.72	62.07
d_A, Approach Delay [s/veh]	0.00		0.57		59.31	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	11.36					
Intersection LOS	F					

Vineyard Crossing Subdivision W-Trans
Scenario 9: 9 PM Future + Project - Caltrans Ramp Improvements

Intersection Level Of Service Report
Intersection 3: N. State St & US 101 South Off-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	52.0
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.277

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	0	631	639	0	22	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	5.00	7.00	2.00	9.00	1.00
Growth Rate	1.00	1.30	1.30	1.00	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	24	3	0	0	6
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]	0	844	834	0	29	527
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	211	209	0	7	132
Total Analysis Volume [veh/h]	0	844	834	0	29	527
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.28	0.90
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	52.05	42.84
Movement LOS		A	A		F	E
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.04	10.78
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	25.89	269.49
d_A, Approach Delay [s/veh]	0.00		0.00		43.32	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	10.78					
Intersection LOS	F					

Vineyard Crossing Subdivision W-Trans
Scenario 4: 4 AM Future + Project

Intersection Level Of Service Report
Intersection 3: N. State St & US 101 South Off-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	158.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.532

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
Approach	Northbound		Southbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	0	956	908	0	18	324
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	5.00	7.00	2.00	9.00	1.00
Growth Rate	1.00	1.30	1.30	1.00	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	12	0	0	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]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1259	1192	0	23	440
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	315	298	0	6	110
Total Analysis Volume [veh/h]	0	1259	1192	0	23	440
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.53	0.98
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	158.88	67.98
Movement LOS		A	A		F	F
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.93	12.28
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	48.29	306.98
d_A, Approach Delay [s/veh]	0.00		0.00		72.50	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	11.52					
Intersection LOS	F					

Vineyard Crossing Subdivision W-Trans
Scenario 6: 6 PM Future + Project

Intersection Level Of Service Report
Intersection 3: N. State St & US 101 South Off-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	52.0
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.277

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	0	631	639	0	22	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	5.00	7.00	2.00	9.00	1.00
Growth Rate	1.00	1.30	1.30	1.00	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	24	3	0	0	6
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]	0	844	834	0	29	527
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	211	209	0	7	132
Total Analysis Volume [veh/h]	0	844	834	0	29	527
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.28	0.90
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	52.05	42.84
Movement LOS		A	A		F	E
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.04	10.78
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	25.89	269.49
d_A, Approach Delay [s/veh]	0.00		0.00		43.32	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	10.78					
Intersection LOS	F					

Vineyard Crossing Subdivision W-Trans
Scenario 8: 8 AM Future + Project - Caltrans Ramp Improvements

Intersection Level Of Service Report
Intersection 3: N. State St & US 101 South Off-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	158.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.532

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	0	956	908	0	18	324
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	5.00	7.00	2.00	9.00	1.00
Growth Rate	1.00	1.30	1.30	1.00	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	12	0	0	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]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1259	1192	0	23	440
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	315	298	0	6	110
Total Analysis Volume [veh/h]	0	1259	1192	0	23	440
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.53	0.98
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	158.88	67.98
Movement LOS		A	A		F	F
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.93	12.28
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	48.29	306.98
d_A, Approach Delay [s/veh]	0.00		0.00		72.50	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	11.52					
Intersection LOS	F					

Vineyard Crossing Subdivision W-Trans
Scenario 9: 9 PM Future + Project - Caltrans Ramp Improvements

Intersection Level Of Service Report
Intersection 4: N. State St & US 101 South On-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.260

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
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	1	1	0	0	0
Pocket Length [ft]	100.00	45.00	105.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	624	181	125	912	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	14.00	3.00	5.00	2.00	2.00	2.00
Growth Rate	1.30	1.30	1.30	1.30	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	3	0	9	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]	835	238	163	1195	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	209	60	41	299	0	0
Total Analysis Volume [veh/h]	835	238	163	1195	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.26	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	12.73	0.00	0.00	0.00
Movement LOS	A	A	B	A		
95th-Percentile Queue Length [veh]	0.00	0.00	1.03	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	25.83	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		1.53		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.85					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: N. State St & US 101 South On-Ramp

Control Type:	Two-way stop	Delay (sec / veh):	21.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.566

Intersection Setup

Name	N State St		N State St		US 101 S Off-Ramp	
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	1	1	0	0	0
Pocket Length [ft]	100.00	45.00	105.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	N State St		N State St		US 101 S Off-Ramp	
Base Volume Input [veh/h]	962	223	216	1015	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	14.00	3.00	5.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.30	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	2	0	31	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]	978	225	281	1046	0	0
Peak Hour Factor	0.9000	0.9000	1.0000	0.9000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	272	63	70	291	0	0
Total Analysis Volume [veh/h]	1087	250	281	1162	0	0
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.57	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	21.31	0.00	0.00	0.00
Movement LOS	A	A	C	A		
95th-Percentile Queue Length [veh]	0.00	0.00	3.47	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	86.77	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		4.15		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.15					
Intersection LOS	C					

Vineyard Crossing Subdivision W-Trans
Scenario 6: 6 PM Future + Project

Intersection Level Of Service Report
Intersection 5: Lovers Ln/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Despina Dr		Lovers Ln		Lovers Ln	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Despina Dr		Lovers Ln		Lovers Ln	
Base Volume Input [veh/h]	2	27	3	2	107	2
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	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	0	7	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]	3	37	4	3	146	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	9	1	1	37	1
Total Analysis Volume [veh/h]	3	37	4	3	146	3
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.09	0.00
d_M, Delay for Movement [s/veh]	10.87	8.48	0.00	0.00	7.45	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.12	0.12	0.00	0.00	0.30	0.30
95th-Percentile Queue Length [ft]	3.05	3.05	0.00	0.00	7.62	7.62
d_A, Approach Delay [s/veh]	8.66		0.00		7.30	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.32					
Intersection LOS	B					

Vineyard Crossing Subdivision W-Trans
Scenario 4: 4 AM Future + Project

Intersection Level Of Service Report
Intersection 5: Lovers Ln/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Despina Dr		Lovers Ln		Lovers Ln	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Despina Dr		Lovers Ln		Lovers Ln	
Base Volume Input [veh/h]	1	16	3	3	23	5
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	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	0	0	5	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]	1	29	4	4	35	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	7	1	1	9	2
Total Analysis Volume [veh/h]	1	29	4	4	35	7
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	9.10	8.44	0.00	0.00	7.28	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.09	0.09	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft]	2.16	2.16	0.00	0.00	2.01	2.01
d_A, Approach Delay [s/veh]	8.46		0.00		6.07	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.36					
Intersection LOS	A					

Vineyard Crossing Subdivision W-Trans
Scenario 6: 6 PM Future + Project

Intersection Level Of Service Report
Intersection 6: N. Lovers Ln/Kuki Rd

Control Type:	Two-way stop	Delay (sec / veh):	21.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.432

Intersection Setup

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
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	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
Base Volume Input [veh/h]	0	1	6	85	2	0	0	162	5	4	198	180
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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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	61	0	0	0	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	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	8	172	3	0	0	211	7	5	257	255
Peak Hour 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
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]	0	0	2	43	1	0	0	53	2	1	64	64
Total Analysis Volume [veh/h]	0	1	8	172	3	0	0	211	7	5	257	255
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.43	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.01	15.52	9.43	20.96	20.78	17.34	8.42	0.00	0.00	7.67	0.00	0.00
Movement LOS	B	C	A	C	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.04	0.04	2.18	2.18	2.18	0.00	0.00	0.00	1.83	1.83	1.83
95th-Percentile Queue Length [ft]	0.96	0.96	0.96	54.58	54.58	54.58	0.00	0.00	0.00	45.66	45.66	45.66
d_A, Approach Delay [s/veh]	10.10			20.95			0.00			0.07		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	4.13											
Intersection LOS	C											

Vineyard Crossing Subdivision W-Trans
Scenario 4: 4 AM Future + Project

Intersection Level Of Service Report
Intersection 6: Lovers Ln/Kuki Rd

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
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	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	N. Lovers Ln			N. Lovers Ln			Kuki Rd			Kuki Rd		
Base Volume Input [veh/h]	1	2	8	77	2	11	0	121	2	10	126	122
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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
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	40	0	0	0	0	0	0	0	69
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
Total Hourly Volume [veh/h]	1	3	10	140	3	14	0	157	3	13	164	228
Peak Hour 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
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]	0	1	3	35	1	4	0	39	1	3	41	57
Total Analysis Volume [veh/h]	1	3	10	140	3	14	0	157	3	13	164	228
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.28	0.01	0.02	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	12.50	13.63	9.17	15.47	15.50	12.88	8.09	0.00	0.00	7.56	0.00	0.00
Movement LOS	B	B	A	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.06	0.06	0.06	1.30	1.30	1.30	0.00	0.00	0.00	1.19	1.19	1.19
95th-Percentile Queue Length [ft]	1.56	1.56	1.56	32.62	32.62	32.62	0.00	0.00	0.00	29.67	29.67	29.67
d_A, Approach Delay [s/veh]	10.36			15.24			0.00			0.24		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	3.58											
Intersection LOS	C											

Vineyard Crossing Subdivision W-Trans
Scenario 6: 6 PM Future + Project

Intersection Level Of Service Report
Intersection 7: N. State St/Kuki Rd

Control Type:	Signalized	Delay (sec / veh):	13.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.560

Intersection Setup

Name	N State St			N State St			Kuki Rd			Driveway		
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	1	0	0	1	1	0	0
Pocket Length [ft]	150.00	100.00	100.00	180.00	100.00	150.00	100.00	100.00	70.00	25.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	N State St			N State St			Kuki Rd			Driveway		
Base Volume Input [veh/h]	53	685	9	43	816	325	190	4	56	6	5	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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	0	0	9	27	0	34	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]	81	891	12	56	1061	432	274	5	107	8	7	48
Peak Hour 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
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	223	3	14	265	108	69	1	27	2	2	12
Total Analysis Volume [veh/h]	81	891	12	56	1061	432	274	5	107	8	7	48
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	49	0	21	38	0	0	31	0	0	31	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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

Vineyard Crossing Subdivision W-Trans
Scenario 4: 4 AM Future + Project

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	L	C
C, Cycle Length [s]	49	49	49	49	49	49	49	49	49	49
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	18	18	3	18	18	16	16	16	16
g / C, Green / Cycle	0.07	0.36	0.36	0.05	0.38	0.38	0.32	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.05	0.24	0.24	0.03	0.30	0.27	0.26	0.07	0.01	0.03
s, saturation flow rate [veh/h]	1774	1863	1854	1774	3547	1583	1069	1583	1405	1614
c, Capacity [veh/h]	121	678	675	97	1340	598	490	508	175	518
d1, Uniform Delay [s]	21.59	10.28	10.28	22.03	10.49	10.08	17.04	12.03	23.54	11.62
k, delay calibration	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	6.20	1.14	1.15	5.37	1.09	1.67	1.04	0.20	0.11	0.09
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
Rp, platoon ratio	1.33	1.33	1.33	1.33	1.33	1.33	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

Lane Group Results

X, volume / capacity	0.67	0.67	0.67	0.58	0.79	0.72	0.57	0.21	0.05	0.11
d, Delay for Lane Group [s/veh]	27.79	11.42	11.43	27.40	11.58	11.75	18.09	12.24	23.64	11.71
Lane Group LOS	C	B	B	C	B	B	B	B	C	B
Critical Lane Group	No	No	No	Yes	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh]	0.96	2.52	2.51	0.67	2.91	2.42	2.68	0.75	0.09	0.37
50th-Percentile Queue Length [ft]	23.97	62.98	62.71	16.72	72.70	60.52	66.97	18.83	2.22	9.30
95th-Percentile Queue Length [veh]	1.73	4.53	4.51	1.20	5.23	4.36	4.82	1.36	0.16	0.67
95th-Percentile Queue Length [ft]	43.15	113.36	112.87	30.10	130.86	108.93	120.55	33.89	3.99	16.75

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.79	11.42	11.43	27.40	11.58	11.75	18.09	18.09	12.24	23.64	11.71	11.71
Movement LOS	C	B	B	C	B	B	B	B	B	C	B	B
d_A, Approach Delay [s/veh]	12.77			12.20			16.47			13.22		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	12.96											
Intersection LOS	B											
Intersection V/C	0.560											

Sequence

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

Vineyard Crossing Subdivision W-Trans
Scenario 4: 4 AM Future + Project

Intersection Level Of Service Report
Intersection 7: N. State St/Kuki Rd

Control Type:	Signalized	Delay (sec / veh):	30.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.727

Intersection Setup

Name	N State St			N State St			Kuki Rd			Driveway		
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	1	0	0	1	1	0	0
Pocket Length [ft]	150.00	100.00	100.00	180.00	100.00	150.00	100.00	100.00	70.00	25.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	N State St			N State St			Kuki Rd			Driveway		
Base Volume Input [veh/h]	66	922	73	195	701	167	121	24	57	43	25	202
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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	38	0	0	0	0	31	18	0	22	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]	124	1199	95	254	911	248	175	31	96	56	33	263
Peak Hour 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
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]	31	300	24	64	228	62	44	8	24	14	8	66
Total Analysis Volume [veh/h]	124	1199	95	254	911	248	175	31	96	56	33	263
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	49	0	21	38	0	0	31	0	0	31	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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

Vineyard Crossing Subdivision W-Trans
Scenario 6: 6 PM Future + Project

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	R	L	C
C, Cycle Length [s]	78	78	78	78	78	78	78	78	78	78
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	29	29	12	25	25	30	30	30	30
g / C, Green / Cycle	0.09	0.37	0.37	0.15	0.31	0.31	0.38	0.38	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.07	0.35	0.35	0.18	0.26	0.16	0.30	0.06	0.04	0.18
s, saturation flow rate [veh/h]	1774	1863	1815	1376	3547	1583	678	1583	1373	1610
c, Capacity [veh/h]	160	693	676	343	1111	496	345	608	130	618
d1, Uniform Delay [s]	33.60	18.89	18.95	31.35	20.80	18.25	28.00	15.79	38.35	18.17
k, delay calibration	0.11	0.39	0.39	0.11	0.11	0.11	0.30	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
d2, Incremental Delay [s]	7.76	19.02	20.27	3.15	1.57	0.78	4.48	0.12	2.25	0.58
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
Rp, platoon ratio	1.33	1.33	1.33	1.33	1.33	1.33	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

Lane Group Results

X, volume / capacity	0.77	0.94	0.95	0.74	0.82	0.50	0.60	0.16	0.43	0.48
d, Delay for Lane Group [s/veh]	41.36	37.91	39.22	34.50	22.37	19.03	32.49	15.91	40.60	18.75
Lane Group LOS	D	D	D	C	C	B	C	B	D	B
Critical Lane Group	Yes	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh]	2.43	11.25	11.27	4.42	5.83	2.85	3.92	1.09	1.13	3.90
50th-Percentile Queue Length [ft]	60.63	281.26	281.82	110.57	145.74	71.30	97.98	27.28	28.37	97.48
95th-Percentile Queue Length [veh]	4.37	16.75	16.78	7.87	9.79	5.13	7.05	1.96	2.04	7.02
95th-Percentile Queue Length [ft]	109.13	418.78	419.47	196.80	244.74	128.35	176.37	49.10	51.06	175.46

Generated with PTV VISTRO
Version 5.00-00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.36	38.51	39.22	34.50	22.37	19.03	32.49	32.49	15.91	40.60	18.75	18.75
Movement LOS	D	D	D	C	C	B	C	C	B	D	B	B
d_A, Approach Delay [s/veh]	38.80			23.96			27.22			22.22		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	30.11											
Intersection LOS	C											
Intersection V/C	0.727											

Sequence

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

Vineyard Crossing Subdivision W-Trans
Scenario 6: 6 PM Future + Project

Intersection Level Of Service Report
Intersection 7: N. State St/Kuki Rd

Control Type:	Signalized	Delay (sec / veh):	25.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.684

Intersection Setup

Name	N State St			N State St			Kuki Rd			Driveway		
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	1	0	0	1	1	0	0
Pocket Length [ft]	150.00	100.00	100.00	180.00	100.00	150.00	100.00	100.00	70.00	25.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	N State St			N State St			Kuki Rd			Driveway		
Base Volume Input [veh/h]	76	812	48	145	649	157	166	13	30	27	18	151
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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	38	0	0	0	0	31	18	0	22	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]	137	1056	62	189	844	235	234	17	61	35	23	196
Peak Hour 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
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	264	16	47	211	59	59	4	15	9	6	49
Total Analysis Volume [veh/h]	137	1056	62	189	844	235	234	17	61	35	23	196
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	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]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	49	0	21	38	0	0	31	0	0	31	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	R	C	R	L	C
C, Cycle Length [s]	71	71	71	71	71	71	71	71	71	71
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	24	24	11	21	21	28	28	28	28
g / C, Green / Cycle	0.10	0.34	0.34	0.15	0.29	0.29	0.39	0.39	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.08	0.30	0.30	0.11	0.24	0.15	0.30	0.04	0.03	0.14
s, saturation flow rate [veh/h]	1774	1863	1827	1774	3547	1583	828	1583	1390	1609
c, Capacity [veh/h]	177	630	618	264	1027	458	423	622	175	632
d1, Uniform Delay [s]	30.09	18.37	18.39	27.14	20.21	18.02	23.68	13.64	32.78	15.18
k, delay calibration	0.11	0.24	0.25	0.11	0.11	0.11	0.25	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
d2, Incremental Delay [s]	6.98	9.81	10.12	3.60	1.71	0.89	3.00	0.07	0.56	0.33
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
Rp, platoon ratio	1.33	1.33	1.33	1.33	1.33	1.33	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

Lane Group Results

X, volume / capacity	0.77	0.89	0.90	0.72	0.82	0.51	0.59	0.10	0.20	0.35
d, Delay for Lane Group [s/veh]	37.06	28.18	28.51	30.74	21.92	18.91	26.68	13.71	33.33	15.51
Lane Group LOS	D	C	C	C	C	B	C	B	C	B
Critical Lane Group	Yes	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh]	2.37	7.66	7.58	2.88	5.06	2.56	4.00	0.59	0.60	2.36
50th-Percentile Queue Length [ft]	59.25	191.51	189.44	72.10	126.47	63.91	99.97	14.73	14.89	59.10
95th-Percentile Queue Length [veh]	4.27	12.20	12.09	5.19	8.75	4.60	7.20	1.06	1.07	4.26
95th-Percentile Queue Length [ft]	106.65	304.99	302.30	129.78	218.69	115.03	179.95	26.51	26.80	106.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.06	28.33	28.51	30.74	21.92	18.91	26.68	26.68	13.71	33.33	15.51	15.51
Movement LOS	D	C	C	C	C	B	C	C	B	C	B	B
d_A, Approach Delay [s/veh]	29.30			22.68			24.14			17.97		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	25.13											
Intersection LOS	C											
Intersection V/C	0.684											

Sequence

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

Intersection Level Of Service Report
Intersection 8: S. Empire Dr/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	16.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.327

Intersection Setup

Name	Despina Dr		Despina Dr		S. Empire 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	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Despina Dr		Despina Dr		S. Empire Dr	
Base Volume Input [veh/h]	58	121	29	260	116	6
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	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	7	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]	77	157	38	345	151	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	39	10	86	38	2
Total Analysis Volume [veh/h]	77	157	38	345	151	8
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.33	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.78	0.00	16.59	12.84
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	1.20	1.20	1.46	1.46
95th-Percentile Queue Length [ft]	0.00	0.00	29.92	29.92	36.57	36.57
d_A, Approach Delay [s/veh]	0.00		0.77		16.40	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	3.74					
Intersection LOS	C					

Vineyard Crossing Subdivision W-Trans
Scenario 4: 4 AM Future + Project

Intersection Level Of Service Report
Intersection 8: S. Empire Dr/Despina Dr

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.068

Intersection Setup

Name	Despina Dr		Despina Dr		S. Empire 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	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Despina Dr		Despina Dr		S. Empire Dr	
Base Volume Input [veh/h]	64	50	6	49	41	13
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	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	5	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]	91	65	8	69	53	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	16	2	17	13	4
Total Analysis Volume [veh/h]	91	65	8	69	53	17
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					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.07	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.54	0.00	10.07	9.30
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.17	0.17	0.28	0.28
95th-Percentile Queue Length [ft]	0.00	0.00	4.28	4.28	7.10	7.10
d_A, Approach Delay [s/veh]	0.00		0.78		9.88	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.48					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 9: N. State St/S. Empire Dr-Ford Rd

Control Type:	Signalized	Delay (sec / veh):	24.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.622

Intersection Setup

Name	N State St			N State St			S Empire Dr			Ford Rd		
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]	190.00	100.00	100.00	160.00	100.00	100.00	100.00	100.00	100.00	120.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	N State St			N State St			S Empire Dr			Ford Rd		
Base Volume Input [veh/h]	39	376	60	55	571	149	242	39	51	73	24	44
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	5.00	7.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	13.00
Growth Rate	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	0	0	34	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	13	0	0	27	0	0	11	0	0	13
Total Hourly Volume [veh/h]	51	501	65	72	776	167	315	51	55	95	31	44
Peak Hour 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
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]	13	125	16	18	194	42	79	13	14	24	8	11
Total Analysis Volume [veh/h]	51	501	65	72	776	167	315	51	55	95	31	44
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

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	20	0	19	30	0	32	34	0	17	19	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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

Vineyard Crossing Subdivision W-Trans
Scenario 4: 4 AM Future + Project

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	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
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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	46	46	5	47	47	18	17	6	5
g / C, Green / Cycle	0.04	0.51	0.51	0.05	0.52	0.52	0.20	0.19	0.07	0.06
(v / s)_i Volume / Saturation Flow Rate	0.03	0.15	0.16	0.04	0.26	0.26	0.18	0.06	0.05	0.04
s, saturation flow rate [veh/h]	1774	1863	1789	1691	1863	1750	1774	1706	1774	1688
c, Capacity [veh/h]	72	946	909	93	973	914	358	324	123	98
d1, Uniform Delay [s]	42.68	12.90	12.91	42.02	13.91	13.91	34.91	31.51	41.21	41.85
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	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
d2, Incremental Delay [s]	11.87	0.83	0.87	12.74	1.83	1.95	7.08	0.58	9.73	11.89
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
Rp, platoon ratio	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

Lane Group Results

X, volume / capacity	0.71	0.30	0.31	0.77	0.50	0.50	0.88	0.33	0.77	0.77
d, Delay for Lane Group [s/veh]	54.55	13.73	13.78	54.75	15.75	15.87	41.99	32.09	50.95	53.73
Lane Group LOS	D	B	B	D	B	B	D	C	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	1.31	3.19	3.09	1.84	6.00	5.66	7.25	2.02	2.38	1.95
50th-Percentile Queue Length [ft]	32.78	79.70	77.25	45.98	149.93	141.61	181.26	50.43	59.52	48.65
95th-Percentile Queue Length [veh]	2.36	5.74	5.56	3.31	10.01	9.57	11.67	3.63	4.29	3.50
95th-Percentile Queue Length [ft]	59.01	143.46	139.05	82.76	250.34	239.20	291.66	90.77	107.13	87.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.55	13.75	13.78	54.75	15.79	15.87	41.99	32.09	32.09	50.95	53.73	53.73
Movement LOS	D	B	B	D	B	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	17.13			18.57			39.50			52.18		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	24.70											
Intersection LOS	C											
Intersection V/C	0.622											

Sequence

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

Intersection Level Of Service Report
Intersection 9: N. State St & S. Emipre Dr-Ford Rd

Control Type:	Signalized	Delay (sec / veh):	33.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.737

Intersection Setup

Name	N State St			N State St			S Empire Dr			Ford Rd		
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]	190.00	100.00	100.00	160.00	100.00	100.00	100.00	100.00	100.00	120.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	N State St			N State St			S Empire Dr			Ford Rd		
Base Volume Input [veh/h]	95	721	145	33	552	167	230	57	50	91	64	70
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	5.00	7.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	13.00
Growth Rate	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	38	0	0	22	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	13	0	0	27	0	0	11	0	0	13
Total Hourly Volume [veh/h]	124	975	176	43	740	190	299	74	54	118	83	78
Peak Hour 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
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]	31	244	44	11	185	48	75	19	14	30	21	20
Total Analysis Volume [veh/h]	124	975	176	43	740	190	299	74	54	118	83	78
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
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 5.00-00

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

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	20	0	19	30	0	32	34	0	17	19	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	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	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

Vineyard Crossing Subdivision W-Trans
Scenario 6: 6 PM Future + Project

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	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
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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	43	43	3	41	41	17	20	8	10
g / C, Green / Cycle	0.06	0.48	0.48	0.04	0.46	0.46	0.19	0.22	0.08	0.12
(v / s)_i Volume / Saturation Flow Rate	0.07	0.32	0.32	0.03	0.26	0.26	0.17	0.07	0.07	0.09
s, saturation flow rate [veh/h]	1774	1863	1765	1691	1863	1733	1774	1734	1774	1716
c, Capacity [veh/h]	99	888	841	63	853	794	342	388	150	199
d1, Uniform Delay [s]	42.52	18.05	18.09	42.84	17.85	17.85	35.31	29.30	40.44	38.87
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	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
d2, Incremental Delay [s]	128.35	3.90	4.17	12.18	2.70	2.90	7.06	0.49	8.76	7.70
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
Rp, platoon ratio	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

Lane Group Results

X, volume / capacity	1.25	0.66	0.67	0.68	0.56	0.56	0.87	0.33	0.79	0.81
d, Delay for Lane Group [s/veh]	170.87	21.95	22.26	55.01	20.55	20.75	42.37	29.79	49.19	46.57
Lane Group LOS	F	C	C	E	C	C	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	5.66	9.16	8.80	1.12	7.12	6.67	6.90	2.34	2.90	3.84
50th-Percentile Queue Length [ft]	141.42	228.95	219.97	27.97	178.02	166.72	172.44	58.46	72.39	96.08
95th-Percentile Queue Length [veh]	10.13	14.12	13.66	2.01	11.50	10.90	11.20	4.21	5.21	6.92
95th-Percentile Queue Length [ft]	253.31	353.02	341.59	50.35	287.42	272.60	280.12	105.24	130.31	172.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	170.87	22.07	22.26	55.01	20.62	20.75	42.37	29.79	29.79	49.19	46.57	46.57
Movement LOS	F	C	C	E	C	C	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	36.57			22.17			38.60			47.68		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	33.17											
Intersection LOS	C											
Intersection V/C	0.737											

Sequence

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