June 19, 2018

SB 343

Senate Bill 343 mandates supplemental materials that have been received by the City Clerk's office that relate to an agenda item after the agenda packets have been distributed to the City Council be available to the public.

The attached documents were received in the City Clerk's office after distribution of the June 19, 2018, City Council meeting agenda packet.

Item 6.1

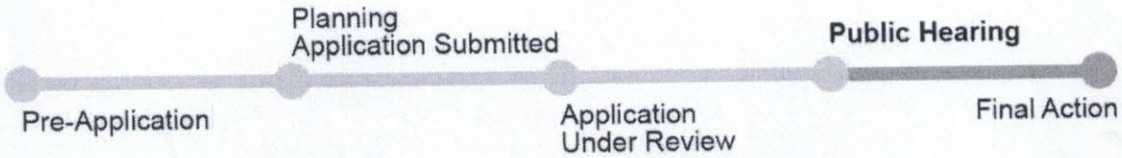
Safari Kids Childcare & Community Center

SHARE (https://dublin-development.icitywork.com/#projectdetail602)

Details

Planning Application #	PLPA-2017-00050
Application Type	Conditional Use Permit, Site Development Review & Minor Use Permit
Application Submittal Date	08/08/2017
General Plan Land Use	Semi-Public
Specific Plan Area	Eastern Dublin Specific Plan
Zoning	PD (Planned Development)
Project Area	2.1 acres
Building Area	14,936 square feet
Foor Area Ratio	.19 FAR
Stories/Height	1 story / 23 feet
Parking Provided	90 parking spaces
Applicant	Safari Kids, Chandra Sirapu [redacted] (510) 585-5541
Project Planner	Mandy Kang - Senior Planner (925) 833-6613 mandy.kang@dublin.ca.gov (mailto:mandy.kang@dublin.ca.gov)

Status



Project Description

Safari Kid is proposing a new daycare facility and community room on the vacant 2.1-acre Semi-Public parcel at the corner of Positano Parkway and West Cantara Drive in Positano. The proposed project includes a 14,936 square foot building comprised of a 10,667 square foot childcare center and a 4,269 square foot multipurpose room that will be open for rent to the community. The project includes an outdoor play area for the childcare center, shared parking for both uses and landscaping throughout the site.

The childcare center is proposed to operate Monday – Friday from 6:30am – 6:30pm with staggered pick-up and drop-off times. Classrooms and the outdoor play area will not be accessible after the childcare center closes. The community center is proposed to operate M-F in the evenings and on weekends during the following hours:

-Sunday: 8am-8pm

-Monday-Thursday: 6:30pm-8pm

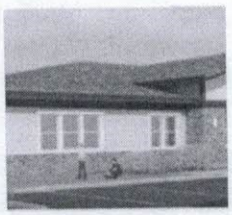
-Friday: 6:30pm-10pm

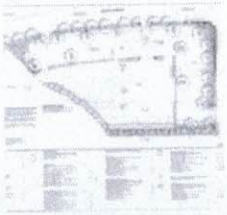
-Saturday: 8am-10pm

The application includes a Conditional Use Permit to amend the PD Zoning and a Site Development Review for the Safari Kids Childcare & Community Center. The project also includes a Minor Use Permit to allow the two uses to utilize shared parking.

On February 13, 2018, the Planning Commission held a public hearing and continued the project to an unknown date. The project has been modified, and it is scheduled to go back to the Planning Commission on April 10, 2018.

Project Images

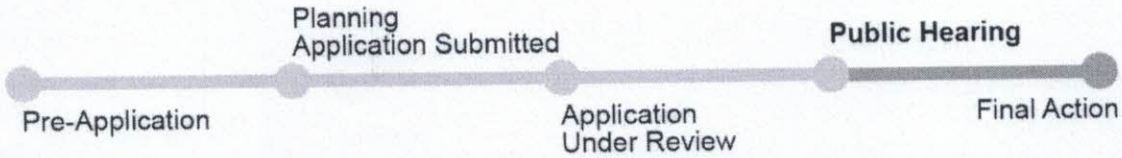




Dublin Parents and Residents IN FAVOR OF THE PROJECT: (Please Sign)

Dublin Resident Name	Address	Signature
CHANDRA ARUMALLA	[redacted]	
Shruti Reddy		
SHEETAL CHAWLA		
Poonam Sharma		
POOJA TIBREWAL		

Status



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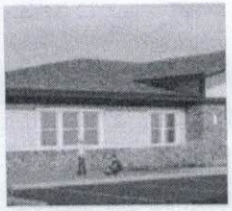


Dublin Parents and Residents IN FAVOR OF THE PROJECT: (Please Sign)

Dublin Resident Name	Address	Signature
SUBAN RAO	[redacted]	
Jithendra Ramasetty		
Catherine Gacic		
Ramesh Rajamanickam		

Dublin Resident Name	Address	Signature
Dipanki shah	[redacted]	
Nishant		
Sindhu		
Ramya Swaminathan		
Jawad Vaghela		
Parul Saxena.		
Hinanjana Kumari N		
Narendra Kul		
KAVITHA DOPPALAP		
Sireesha Gundu		
Sujana Lakshmi		
Rajeswari Rangarajan		
Lamani Ranirale		
Mahathy eoole		
SRIDHARAN MINOR		
SHARDA SING		
Sheena Wadhawa		
Sayan		
Amy Shuniyo		
Ravi Lakamtan		
Rajesh Ganesan		
Ami. Patel		
MEGALA GOUNDER.		
Naijo Jose		
Sri Chandana		

Dublin Resident Name	Address	Signature
ROBIN PRSUDAS	[redacted]	
Puja sankar		
SRINIVAS VATTIKUTI		
SOWJANYA VADAPALLI		
Durga Devi		
Manik Shah		
Suresh Babu Adiserla		
Pankaj Shukla		
Kavya Gautam		
Anita Grandhi		
Dileep Sunkara		
Subna. GOPAL		
Denny Joseph		
Vani Chitupolu		
Pankaj Mandaly		
Kadalyan Miane		
Shwetha Hegde		
Yamuna Maddirala		
KARTHIK SRINIVAS		
RAVINDRA SINGH		
Vishnu Swaminathan		
Sureshbabu		
Vidyasagar Ramireddy		
R. Silpa.		
Kathyayini. Kilari		

Dublin Resident Name	Address	Signature
Ranjan Bala	[redacted]	
Megala Gounder		
JAYADEEP .K.P		
Indrani Ghosh		
A. Suresh Babu Adisesh		
[illegible]		
Gagan Tulsi		
Anitha Lachi		
Radha		
Janaki Raghavan		
Anu Naijo		
Ruchi Nayyar		
[illegible]		
Gayatri		
GIRISH SURYAJOTHES		
Ajinkya Takawale		
Preeti Dabral		
GANGADHAR KURAKULA		
VISHNU SWAMINATHAN		
R. Silpa		
RAGINI KOLLI		
BRINDA RAM		
Siddhi Patel		
SATHEESH NARAYANA		
Priyanka Rawat		

Dublin Resident Name	Address	Signature
Suvarna Nerlune	[redacted]	
Anjali Walse		
PUSHKAR SAMBHUS		
Vandana Jain		
Laxmi Galla		
RAJEEV SINGH		
SUMIT GABADA		
Simantini Patil		
MEETA DASH		
PRIYA VADYANATH		
Durga Devi		
Lavanya Muttayan		
MANI DEEPIKA P		
Kathyayini.kilar		
~~[illegible]~~ Regu		
Sarika Kunni		
Swathi Banoth		
VIJAYA Boppalap		
Shubhra Kar		
Sravanthi Nuli		
Siva Spandana Ponnam		
Sindhu Baragada		

Dublin Resident Name	Address	Signature
SOUMANYA SODAVARAPU	[redacted]	
Manasa Pidatala		
Aditi Mukherjee		
Swathi Naik		
Sridharan Minot		
Kamani Kanirala		
Elsie Pack		
PRIYA Jangamati		
Khushbu Dattani		
Sireesha Gundu		
Gayathri Kirthigaprasan		
Sanjeev Kasavabhotla		
Sunil Kondi		
SHANKAR VISWANATHAN		
VINOD MURUGESAN		
Mahadevan Devarajan		
MUKUL BIST		
Kameswari Kelam		
KASI Aravalapati		
Mahendra Rajeev		
Jitendra Mandalia		
Lakshmi Ramachandran		
USHA KARANTH		

Dublin Resident Name	Address	Signature
Smita Bhesla	[redacted]	
[illegible]		
[illegible]		
Trupti sagare		
Sanika Kumari		
Mahesh yeole		
Suprita Bhomkar		
Manish Wadh		
Sirisha chebrolu		
Indrani Ghosh		
Jaysdeep karipatil		
Mahesh Ayal		
Shruti ciganevalli		
Sushil Dhar		
Mahesh K		
Yash Shah		
Ramesvari Kelam		
SENTHIL ILANGO		
Hardeep Tulsi		
Nithya Mohana Ranga		
C. Sirisha		
[illegible]		

Dublin Resident Name	Address	Signature
ALAPATI RAMAKANTH	[redacted]	[redacted]
VENKAT BANDARU	[redacted]	[redacted]
VASANTHA PEDDIREDDY	[redacted]	[redacted]
BHARGAVI KOTHURI	[redacted]	[redacted]
Vandana Sarikond	[redacted]	[redacted]
Rama Aluri	[redacted]	[redacted]
Veera Swamy Dad	[redacted]	[redacted]
sreedevi Ayyankala	[redacted]	[redacted]
SHIVAMALLIKA	[redacted]	[redacted]
RAVINDRA SINGH	[redacted]	[redacted]
Suvarna Nerune	[redacted]	[redacted]
Kathyayini Kilar	[redacted]	[redacted]
Tamilselvi Kaliyapp	[redacted]	[redacted]
Hindumathi	[redacted]	[redacted]
Vandana Jain	[redacted]	[redacted]
Priyanka Athani	[redacted]	[redacted]
[illegible]		
[illegible]		
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Law Offices of
Michael Patrick Durkee
1250- I Newell Avenue, #156
Walnut Creek CA 94596

Via Email

June 18, 2018

Honorable Mayor
and City Council
City of Dublin
Attention: City Attorney and
City Clerk
Dublin Civic Center
100 Civic Plaza,
Dublin, CA 94568

Re: Legal and Factual Grounds Supporting Appeal of Planning Commission Denial of Safari Kids Daycare Center – Site development Review, Conditional Use permit and Minor Use Permit

Dear Honorable Mayor and City Council:

On behalf of Braddock and Logan, the property owner of the below-described "Site," and for the factual and legal reasons set forth in this letter and the administrative record (as a whole), we respectfully submit that the Dublin Planning Commission's denial of the above-referenced Safari Kids applications violated controlling state and federal law, should be reversed, and the project applications should be approved.

FACTUAL BACKGROUND

From the outset, Braddock and Logan proposed 11 to 12 residential units on this 2.1 acres (net) site ("Site"):

- In September of 2004, City Council approved the General Plan Amendment and Stage 1 Zoning for the Site as "Single Family Residential" (0.9 to 6.0 Units Per Acre).
- In September of 2005, Braddock and Logan's Vesting Tentative Map No 7586 was deemed complete, with the Site shown as 11 single family lots. Under controlling law, Braddock and Logan had a vested right to pursue residential development of the Site.

Braddock and Logan is politically sensitive and enjoys strong and positive relations with the City. At the urging of certain City Council members who wanted a site for a church or other

community-serving use, the City changed the regulations applicable to the Site. The Site received a "Semi-Public" General Plan and Specific Plan designations, and Planned Development Zoning, including PD Semi-Public Stage 1 and Stage 2 approvals:

- In October of 2005, City Staff requested that the Site be designated as "Semi Public" and that the 11 residential lots be removed.
- In November of 2005, the Planning Commission approved a vesting Tentative Map for 1,043 residential units, with the Site designated as Semi-Public (the approval was subject to the City Council approval of the Stage 2 Development Plan rezoning).
- In December of 2005, the City Council approved the Stage 2 Development Plan Rezoning for the Site, with the Site designated – and included in the Site Plan attached to the Ordinance – as "Semi-Public." According to that Ordinance, the maximum allowed FAR is 0.50, and the *permitted as of right* uses of the Site include: Day Care Center, Community Center/Clubhouse; Community Theater, Cultural Center, Education Facilities, Private School, Recreational Facilities-public, Religious Institution, Senior Center, Special Needs Facilities, Trail Staging Area, Youth Center, and similar uses as determined by the Community Development Director.

For the next five (5) years, Braddock and Logan marketed the Site to potential buyers, but none was found. Because of this, Braddock and Logan again approached the City seeking to develop the Site with residential uses:

- On December 7, 2010, the City Council approved a General Plan Amendment Study, authorizing City Staff to evaluate the removal the Semi-Public designation from the Site and replacing the designation with a Single Family Residential (0.9-6.0 Units Per Acre) designation.
- On January 11, 2012, Mr. Andy Byde of Braddock and Logan held a community meeting with the Positano community to explain the proposed residential uses of the Site. The Positano Community's very strong reaction (and consensus) was to leave the Semi-Public Land Use designation in place. When Mr. Byde explained to the community that if the Semi-Public designation was not changed, the Site would likely end up as a Child Care Facility, the overwhelming response was they would take their chances with the existing Semi-Public land use over having 12 new residential neighbors.
- On January 24, 2012, the Planning Commission denied Braddock and Logan's request for a General Plan Amendment and Vesting Tentative Map for 12 Single Family Units on the Site. The Planning Commission recommend that the Land Use designation be retained as Semi-Public, so that uses such as child care facilities would have a place to go in the Positano community.
- Thereafter, in February of 2012, Mr. Byde spoke with Mayor Tim Sibranti regarding the Planning Commission's actions. In response, Mayor Sibranti stated that the approval for a General Plan Amendment and Vesting Tentative Map for 12 Single Family Units would be a "heavy lift" and may not receive approval from the City Council. Mayor Sibranti

recommended that Braddock and Logan not move forward with the proposal to place 12 Single Family Units on the Site.

- On April 20, 2012, at the request of the Mayor and other Council Members privately, Braddock and Logan withdrew the application request for the General Plan Amendment and Tentative map regarding its proposed 12 Single Family Units.

With that result, Braddock and Logan again attempted to market the Site to potential buyers. Finally, in November of 2016, Braddock and Logan hired Michael Copeland, Managing Director of Cushman and Wakefield, to market the property to preschool/day care providers.

- In February of 2017, Braddock and Logan selected Safari Kids as a suitable buyer. Braddock and Logan reasoned that the City would support Safari Kids, as they already operated a successful franchise in Dublin.

- In June of 2017, Safari Kids finished its due diligence on the Site and decided to move forward with the purchase.

City Staff indicated to Safari Kids that although all land use approvals had been granted for the Site in 2005, somehow the Semi-Public "hours of operation" and building "setbacks" had inadvertently not been addressed by the City. Under existing City Code provisions, such items can be *administratively* handled, with the Community Development Director empowered to make such revisions without a public hearing. However, City Staff insisted that Safari Kids seek a Conditional Use Permit to establish hours of operation and building setbacks. Safari Kids was also instructed to submit applications for design review and a minor use permit for shared parking:

- On August 8, 2017, Safari Kids submitted such applications, proposing a 10,667 square foot child care facility and a 4,269 square foot community room, with shared parking between the two facilities.

- The proposed hours of operation were 6:30 a.m. to 6:30 p.m., consistent with the business practices and City-approved operations hours of other day care facilities in the City. Parking was ample, and the design was likewise consistent with new development in the Positano area.

In February and April of 2018, the Planning Commission held public hearings regarding Safari Kids' applications. At the first hearing, few if any neighbors from the Positano community were present. Commissioner Amit Kothari wrongly blamed the applicant, asserting that notice had not been properly provided. That was untrue. At the continued hearing, the room was packed. The Planning Commission succumbed to the political pressures caused by the angry neighbors, and instead of focusing on the merits of the applications – as required by law - turned the hearings into a referendum on the Site's Semi-Public designation, including Safari Kids' day care proposal (which is a permitted use under that designation). The City Council's review of the Planning Commission hearings is strongly advised. Perhaps Planning Commissioner Kothari's efforts were geared to secure favor with the neighbors at the applicant's – and Braddock and Logan's – expense, leading to designed political pressure being placed on the Planning

Commission as a whole, resulting in the Commission doing the bidding of the Positano neighbors instead of providing the applicant with the fair and impartial "Due Process" and "Equal Protection" required by controlling law:

- **February 13, 2018:** At the Planning Commission hearing, no members of the Positano community were in attendance. Because of this, Commissioner Amit Kothari - who lives in the Positano Community – asserted that the absence of attendance was a result of inadequate notification by the applicant and a lack of posting on to social media platforms. Mr. Jeff Baker, Assistant Community Development Director, corrected Commissioner Kothari, and stated that the applicant complied with all City notification procedures, including the required 300-foot radius mailed notification to all property owners and tenants. In addition, the applicant complied with the City requirement that two on-site signs be posted on the property explaining the nature of the application (which were posted in August of 2017). Finally, the City maintained an extensive description of the project and the time and date of all public hearings associated with the project on the City's development projects website (https://dublin-development.icitywork.com).

- Given input by the Planning Commission at the February 13, 2018 hearing, the applicant voluntarily revised its project, including access points, staggered drop off and pick up times, parking lot layout, design features (e.g., adding additional stone on the exterior of the building, adding pavers at the entrance of the site, reducing the size of signage to below what the City's sign ordinance allowed, eliminating the driveway entrance from Positano Drive), etc.

- At the February 13, 2018 hearing, Commissioner Kothari asked the applicant if a licensed traffic engineer had been retained to evaluate the on-site and off-site impacts of the project. In response, it was explained that the Safari Kids project does not include any construction of a new roadway, and that a day care is a principally permitted use under the Semi-Public land use designation. Therefore, the project is not required to have a traffic engineer as part of the design team. Moreover, City Staff stated the project had been designed by the applicant's licensed civil engineer (McKay and Somps) and had been evaluated by both the City's licensed Civil Engineer and the City's licensed Traffic Engineer for consistency with all City traffic and safety requirements and professional standards. Despite the assertion by City Staff that the project had already been evaluated by all appropriate professionals, Commissioner Kothari continued to insist that traffic and safety issues would result from the project, without citing any evidence (substantial or otherwise) supporting his argument.

- Commissioner Kothari's unsubstantiated arguments began to be picked up by the other Planning Commissioners, who in turn requested a peer review of the project by an outside traffic engineer. Again, Mr. Baker told the Planning Commissioners that the project before them was a "design review permit" and not a question of permitted land use, that therefore the request of additional traffic studies was not be under the authority of the Planning Commission, and that the City's Traffic Engineer had already reviewed the project and found it consistent with City's traffic and safety requirements.

- Despite being warned by City Staff that the project before the Planning Commission was not a question of use and that therefore the traffic associated with the project was not subject to the Commission's evaluation, Commissioner Kothari stated that the he could not make a decision on the project without a without a third-party traffic evaluation. Commissioner Kothari continued to state that his role as a planning commissioner was to protect the public and to determine what was the best "use of the property for the community."
- At the end of the meeting, Commissioner Kothari continued to stress the traffic analysis issue by stating that State law had changed and now required traffic analysis to be conducted to determine impacts on pedestrians, cyclist, transit, and traffic, because of a new law called "Complete Streets."
- Throughout the proceedings, we believe that Commissioner Kothari was more interested in his role as a member of the Positano community than in his obligations as a member of the Dublin Planning Commission. As a result, we assert that Commissioner Kothari refused to accept City Staff's assertion that the use associated with the proposed Safari Kids project (and its associated traffic) was not subject to the Planning Commission's review. Commissioner Kothari concluded his comments by stating that he would like to continue the item until the City' Traffic Engineer could address his concerns, especially regarding the "New State Law of Complete Streets."
- **April 10, 2018:** The Planning Commission heard the continued Safari Kids project on April 10, 2018. According to City Staff, that Planning Commission meeting was one of the most well-attended meetings in the City's history. Litigation "Discovery" may uncover the root of that public outcry. Dozens of speakers from the Positano community – as if reading from a script - asserted that they did not want a "commercial use in Positano." Many angry members of the audience could be heard yelling at the Commission and at speakers who were speaking in favor of the project. Enraged neighbors ignored all applicable rules and interrupted and shouted over the comments of public members testifying in support of the Safari Kids applications. An atmosphere of fear, intimidation and retaliation was created, and the Planning Commission did little, if anything, to control or correct this situation.
- Ultimately, the Planning Commission voted to deny the project's applications based on traffic impacts, despite not only the absence of any evidence supporting that conclusion, but the abundance of evidence contradicting that conclusion: The City's Traffic Engineer clearly stated that in his professional opinion, after applying controlling regulations, that there would be no safety impacts from the project and that the project met all City traffic requirements. No one from the audience nor the Commission provided contrary evidence; only conclusions were voiced that traffic and safety impacts would result. The Planning Commission simply "folded" to community pressure to deny the project, echoing the "refrain" that the project would result in additional traffic and safety impacts on the community. This decision was made despite repeated warnings from City Staff that the decision before the commission was a design question, not a use question - the question of use had already been answered by the City Council's adoption

of the General Plan, Specific Plan, Stage 1, and Stage 2 Planned Development Zoning of "Semi- Public," which lists preschools and community facilities as principally permitted uses.

- During the vote, the Planning Commission had difficulty forming findings for denial. Despite the clear evidence to the contrary, members of the Planning Commission incorrectly stated that the project only had one way in and one way out (there are four ways in and out of the Positano Area). Perhaps as a result of fear of potential adverse neighbor reaction and incorrect conclusions about the Project and its impacts on the Positano area, the Commission arrived at unsubstantiated and false conclusions, including: "Positano Parkway did not have adequate capacity to serve the project," and "development of this project will increase traffic." Ultimately, the Planning Commission denied all the Safari Kids applications.

- Despite the lack of *any* evidence in the record supporting their conclusions, the Planning Commission's denials cite "inadequate traffic capacity to serve the proposed project," "inadequate public utilities to serve the site," and additional vehicle trips that will result in safety impacts to pedestrians and cyclists as the sole grounds for their denial of the applications.

This appeal from those denials was timely brought. In May of 2018, Braddock and Logan hired TJKM, Transportation Consultants and Engineers, to evaluate the project's safety impacts to pedestrians and vehicles, its parking adequacy, as well as its impact on traffic, traffic volumes, and Levels of Service. Their report is attached hereto and incorporated herein by this reference as if set forth herein in full.

TJKM studied the Safari Kids project, including the following: (1) level of service and queuing on Positano Parkway with and without the proposed project; (2) potential traffic operational effects from the proposed project; (3) project trip generation; (4) existing traffic, pedestrian, bicycle, and transit conditions of the Positano area; (5) the existing plus project traffic conditions (6) future traffic plus project traffic conditions of the Positano area; and (6) Site Access, Circulation, and Parking of the proposed project. The conclusions of the traffic impact study are as follows:

- Under "Existing Conditions," all study intersections operate at acceptable LOS D or better during all peak periods.

- Under "Existing plus Project Conditions," all intersections will continue to operate at LOS D or better during all peak periods, and all 95th percentile queue lengths will be accommodated within available storage lanes.

- Under "Future Conditions," all study intersections operate at acceptable LOS D or better during all peak periods.

- With the project, pedestrian connection to the site will be safe and adequate, with no safety conflicts.

- With the project, no impacts to pedestrian, bicycle, and transit facilities will result.

- The proposed project will not conflict with existing and/or planned pedestrian or bicycle facilities and will add very few trips to existing transit facilities.
- The project site layout is adequate for on-site vehicle circulation, including vans, emergency vehicles, and garbage trucks.
- No traffic operations issues are expected, and ample on-Site site parking will work well with no delays or backups into the nearby streets.
- The proposed project has an ample supply of parking spaces to be provided on-Site (90 parking stalls), and that no parking impacts will result, either on-Site or on neighboring City streets.
- Consistent with the evidence presented by City Staff to the Planning Commission, TJKM concludes that the proposed project introduces no impacts to pedestrian, bicycle, transit facilities or traffic facilities; that the roadway network has adequate capacity to serve the project; and that no substantial impacts would result to the roadway network from the project. The TJKM analysis wholly undermines each finding for denial made by the Planning Commission.

No doubt additional information will surface through litigation if this appeal is denied. In short, evaluating the Planning Commission decision as a whole, including the decision to continue the hearing, improperly request traffic analysis, and ultimately use unsubstantiated and false findings to deny the project, leads one to reasonably wonder whether the Planning Commission's denials were the product of bias and political pressure, perhaps created by Commissioner Kothari as a Positano resident, and multiplied by the Planning Commission as a whole, which violated the protections provided the applicant and Braddock and Logan under controlling state and federal law.

LEGAL ARGUMENT

A. The Planning Commission Failed to Provide a Fair Process; Liability Will Attach if the Appeal is Denied

Controlling law makes clear that local decision-makers must ensure that due process and equal protection safeguards are provided when applications - like those here - are presented for evaluation and decision. This body of law hinges on fair and impartial proceedings, with neutral arbiters basing their decisions on substantial evidence in the administrative record.

California law is consistent with this Constitutional mandate, with the elements of a fair hearing including the requirement that decision makers be unbiased, and that decisions be based on substantial evidence in the record. As California Code of Civil Procedure section 1094.5 provides in pertinent part:

> (b) . . . The [judicial] inquiry in such a case shall extend to . . . whether there was a fair trial; and whether there was any prejudicial abuse of discretion. Abuse of discretion is established if the respondent has not proceeded in the manner

> required by law, the order or decision is not supported by the findings, or the findings are not supported by the evidence.
>
> (c) . . . abuse of discretion is established if the court determines that the findings are not supported by substantial evidence in the light of the whole record. (*Id*.)

As your City Attorney will confirm, Code of Civil Procedure section 1094.5(c) applies to the quasi-judicial project applications that are the subject of this appeal.

Such rules of "fairness" serve two basic goals: (i) providing more accurate, principled, and predictable decisions; and (ii) demonstrating to the public that their government will treat them in a just and evenhanded manner.

We respectfully submit that the facts of this case support a reasonable conclusion that the Planning Commission was unfair and biased in their decision making, that their denials were politically motivated and lacked any supporting substantial evidence, and that the only substantial evidence in the record supports the reversal of the Planning Commission's denials and the approval of the project applications.

1. <u>The Planning Commission Was Unfairly Biased</u>.

A fair process demands impartial proceedings. As California's Institute for Local Government provides in Chapter 5 ("Fair Process Laws and Merit-Based Decision-Making") of its treatise <u>Understanding the Basics of Public Service Ethics</u> (2013) ("ILG Guide"):

> When an official sits in a quasi-judicial capacity, that official's personal interest or involvement, either in a decision's outcome or with any participants, can create a risk that the agency's decision will be set aside by a court . . . Decision-makers are also well advised to step aside on participation in a quasi-judicial matter when the decision-maker has pre-judged the matter. Attributes of having "pre-judged the matter" include having a closed mind or a preconceived and unalterable view of the proper outcome without regard to the evidence.
>
> * * *
>
> If the violation rises to the level of a denial of due process under constitutional law, the affected individual(s) may seek damages, costs and attorney's fees.
>
> *Id.* at 73.

We understand that some degree of bias in decision making is unavoidable. But when bias for the neighbors and against the applicant leads to denial decisions based solely on unreasonable and unsubstantiated conclusions, a "fair process" is the casualty. We respectfully submit that such is the case here.

The applicant and Braddock and Logan have a due process right to be protected from a Planning Commissioner and full Commission whom a reasonable person would determine to be unfairly biased, given advertised views and subsequent actions.

California courts have shown a willingness to find the absence of a fair hearing when one sitting in a position of judgment has shown through words and conduct that he was "not a disinterested, unbiased decision maker." *See, Clark v. City of Hermosa Beach*, 48 Cal. App. 4th 1152, 1173 (1995). Likewise, in *Nasha v. City of Los Angeles*, 125 Cal. App. 4th 470 (2004), the court, in finding an unacceptable probability of actual bias (*Id*. at 482), focused on a planning commissioner who as president of a homeowners' association published an unsigned newsletter against the project. The court found that authorship of the article produced an unacceptable probability of actual bias.

We submit that the facts in *Nasha v. City of Los Angeles* are remarkably similar to the situation at hand. We believe, and upon that belief assert, that Commissioner Kothari was more interested in his role as a member of the Positano community than in his obligations as a member of the Dublin Planning Commission. As formal discovery may reveal, we believe that Commissioner Kothari put considerable energy into his outreach, seeking to pack the hearing room with individuals against the project, hoping to influence the Planning Commission's decisions, and hence secure political favor for himself. We submit that those are not the actions of an unbiased decision maker.

As the court in *Woody's Group, Inc. v. City of Newport Beach*, 233 Cal. App. 4th 1012, 1027 (2015), concluded, "a person cannot be a judge in his or her own cause." If Commissioner Kothari's "cause" was to kill this project, and in doing so, to ingratiate himself to his neighbors, then he should have recused himself, and not sought to influence the remainder of the Planning Commission. He did not recuse himself. Possibly as a result, instead of focusing on the design merits of the *permitted as of right* day care facility on the already-designated "Semi-Public" Site, the Planning Commission (as a whole) succumbed to the political pressures caused by the very vocal and very angry neighbors and twisted the focus of the hearings into a referendum on the Site's Semi-Public use. In sum, we assert that the Planning Commission's denial of the project applications was wholly political in nature and was influenced entirely by the anti-project opinions and emotions of the neighbors, possibly gathered into the hearing chambers by the efforts of Positano resident, Commissioner Kothari.

The City cannot have it both ways: it cannot deny Braddock and Logan's request to re-designate the Site "Residential" - affirming its desire to retain the community-serving uses envisioned by the "Semi-Public designation – and then deny a use envisioned and permitted by that Semi-Public designation. If the City wishes to keep the Site vacant, it can; it simply must pay for it.

Fairness must be restored: the biased denial of the project applications by the Planning Commission must be reversed and the project applications approved.

2. **The Planning Commission's Denials Were Not Supported by Substantial Evidence in the Record.**

A fair process demands that decisions be based on substantial evidence in the administrative record. As Code of Civil Procedure section 1094.5(c) provides in pertinent part:

> (c) . . . abuse of discretion is established if the court determines that the findings are not supported by substantial evidence in the light of the whole record. (*Id*.)

Again, as your City Attorney will confirm, Code of Civil Procedure section 1094.5(c) applies to the quasi-judicial project applications that are the subject of this appeal.

Once more, we respectfully submit that the Planning Commission denied the project applications, concluding that there was inadequate traffic capacity to serve the proposed project, and that additional vehicle trips caused by the project would result in safety impacts to pedestrians and cyclists, without any substantial evidence in the record supporting those conclusions. As set forth above and in the attached traffic report from TJKM, the project suffers from *none* of the impact conclusions reached by the Planning Commission in their denial of the project applications.

Fairness must be restored: the unsupported denials of the project applications by the Planning Commission must be reversed.

3. **If the Planning Commission's Denials Are Not Reversed, City Liability May Result.**

Consistent with the ILG Guide's admonitions and controlling law, 42 United States Code (USC), section 1983 provides a civil action against a person or persons, who, under the color of government, violate the rights of a citizen, including their Due Process and Equal Protection rights guaranteed by the Fifth and Fourteenth Amendments to the United States Constitution:

> Every person under color of any statute, ordinance, regulation, custom, or usage, of any State . . . [who] subjects, or causes to be subjected, any citizen of the United States . . .to the deprivation of any rights, privileges, or immunities secured by the Constitution and laws, *shall be liable* to the party injured in an action at law, suit in equity, or other proper proceeding for redress. 42 USC § 1983.

Further, controlling law supports private property owner compensation from public agencies whose actions "take" the economically viable use of a property. If neither Residential nor permitted as of right Semi-Public uses are allowed, clearly no economically viable use value remains in the Site. *See, e.g., Agins v. Tiburon,* 447 U.S. 255, 261 (1980) (a regulation must advance a legitimate governmental interest and not deprive the property of economically viable use)*; Lucas v. South Carolina Coastal Council,* 505 U.S. 1003 (1992) (sand dune preservation regulation was a "taking" per se because it took all viable economic use from property); *see also, Nolan v. California Coastal Commission,* 483 U.S. 825 (1987), and *Dolan v.*

Town of Tigard, 512 U.S. 374 (1994) (there must be "nexus" between the evidence in the record and the decision reached).

Likewise, there is a point by which the City is estopped from refusing to honor a land use designation it has placed on a property. We have reached that point. If this appeal is denied, it will be clear that, despite the long history of this Site, the City will allow neither Residential nor Semi-Public uses on the Site. As such, no viable economic use will remain in the Site. Braddock and Logan will lose this sale to Safari Kids and will have no option but to seek all remedies available in law and equity, including without limitation, lost opportunity costs, damages, and attorneys' fees and costs.

B. The Planning Commission's Denials Must be Reversed

The Planning Commission's denials were not the product of a fair process. Instead, they were the product of bias and political pressure, possibly created by Commissioner Kothari as a Positano resident, and multiplied by the Planning Commission as a whole. Their actions violated the protections guaranteed the applicant and Braddock and Logan under controlling state and federal law. Such violations are actionable in litigation and will be acted upon by Braddock and Logan if the City Council affirms the actions of the Planning Commission.

Embrace the rules of "fairness." Demand adhesion to the law. In return, you will secure more accurate, principled, and predictable decisions, and you will remind your citizens and those who come before the City that they will be treated in a just, lawful, and evenhanded manner.

The Planning Commission's project denials must be reversed. The only substantial evidence in the record demands the approval of the project applications.

Respectfully submitted,

Michael Patrick Durkee, Esq.

Cc: City Clerk
City Manager
City Attorney
Braddock and Logan

Enclosure

Traffic Impact Study Report

Safari Kids Daycare Center

City of Dublin, California

June 13, 2018

TJKM

Table of Contents

Executive Summary **3**

Introduction **5**

Study Intersections and Scenarios 5

Study Methodology **9**

Level of Service Analysis Methodology 9

Significant Impact Criteria and Level of Service Standards 10

Existing Conditions **11**

Existing Setting and Roadway System 11

Existing Traffic Conditions 12

Existing Pedestrian Facilities 13

Existing Bicycle Facilities 14

Existing Transit Facilities 14

Intersection Level of Service Analysis – Existing Conditions 15

Existing plus Project Conditions **18**

Project Trip Generation 18

Project Trip Distribution and Assignment 18

Intersection Level of Service Analysis – Existing plus Project Conditions 21

Queuing Analysis 22

Future Conditions **24**

Intersection Level of Service Analysis – Future Conditions 24

Future plus Project Conditions **26**

Intersection Level of Service Analysis – Future plus Project Conditions 26

Site Access and On-Site Circulation and other impacts **28**

Site Access 28

On-Site Circulation 28

Drop-Off and Pick Up Operations 29

Pedestrian Access 29

Bicycle Access 30

Transit 30

Parking 30

Conclusions 31

Tables

Table 1: Unsignalized Intersection Delay and LOS Definitions 10

Table 3: Existing Transit Services 15

Table 4: Intersection Level of Service Analysis – Existing Conditions 15

Table 6: Project Trip Generation 18

Table 7: Intersection Level of Service Analysis – Existing plus Project Conditions 21

Table 8. 95th Percentile Queue Lengths 22

Table 9: Intersection Level of Service Analysis – Future Conditions 24

Table 10: Intersection Level of Service Analysis – Future plus Project Conditions 26

Table 11: Safari Kids Student Arrivals and Departures 29

Figures

Figure 1: Vicinity Map 7

Figure 2: Project Site Plan 8

Figure 4: Existing Conditions Peak Hour Traffic Volumes, Lane Geometry, and Traffic Controls 17

Figure 5: Project Trip Assignment and Distribution 20

Figure 6: Existing plus Project Conditions Traffic Volumes, Lane Geometry, and Traffic Controls 23

Figure 7: Future Conditions Traffic Volumes, Lane Geometry, and Traffic Controls 25

Figure 8: Future plus Project Conditions Traffic Volumes, Lane Geometry, and Traffic Controls 27

Appendices

Appendix A – Existing Turning Movement Counts

Appendix B – Existing Conditions Level of Service Worksheets

Appendix C – Existing Plus Project Conditions Level of Service Worksheets

Appendix D – Future Conditions Level of Service Worksheets

Appendix E – Future plus Project Conditions Level of Service Worksheets

EXECUTIVE SUMMARY

This report summarizes the results of the Traffic Impact Study (TIS) conducted for the proposed Safari Kids daycare facility to be located at the southwest corner of the intersection of Positano Parkway and West Cantara Drive in the City of Dublin, California. The purpose of this traffic impact study is to evaluate the potential traffic impacts resulting from the development of the proposed project on the surrounding transportation system.

The proposed project consists of a 14,963 square foot (sq. ft.) building that includes a 10,667 sq. ft. daycare center and a 4,296 sq. ft. community center. The access to the project site will be via one primary driveway on West Cantara Drive and one emergency access driveway on Positano Parkway. An alternative project scenario was evaluated, with the driveway on Positano Parkway permitting entry only. The project site is currently vacant.

This analysis evaluated level of service and queuing on Positano Parkway with and without the proposed project and taking into consideration the construction of the new Cottonwood Creek Elementary school nearby. Two project scenarios were evaluated, based on two driveway operation alternatives. The report also includes evaluations and recommendations concerning project site access and on-site circulation for vehicles.

To evaluate the impacts on the transportation infrastructure due to the addition of traffic from the proposed project, three study intersections were evaluated during the weekday a.m. peak hour, afternoon school peak hour, and p.m. peak hour, under three study scenarios. The study intersections and roadway segments were evaluated under *Existing No Project* and *Existing plus Project*, *Future*, and *Future plus Project* scenarios. Future conditions include redirection of approximately 30 percent of school-related traffic from Amador Elementary School on Positano Parkway to the planned Cottonwood Creek Elementary school on Central Parkway. For the purposes of this analysis, potential traffic operational effects from the proposed project are identified based on established traffic operational thresholds of the City of Dublin.

Project Trip Generation

The proposed daycare center is expected to accommodate between 190 and 200 students. Drop-off and pickup periods would be staggered by age group and feature vanpools to minimize the number of peak hour trips generated. The community space would operate entirely outside school peak hours. Based on the planned drop-off and pickup operations, the site is expected to generate 80 vehicle trips (40 inbound and 40 outbound) during the a.m. peak hour and 60 vehicle trips (30 inbound and 30 outbound) during the afternoon school peak and 160 vehicle trips (80 inbound and 80 outbound) during the p.m. peak hour.

Existing Conditions

Under this scenario, all study intersections operate at acceptable LOS D or better during all peak periods. The 95th percentile queue lengths at the intersections of Positano Parkway & West Cantara Drive/Salerno Drive and Fallon Road & Positano Parkway are all accommodated within available storage lanes. Although the study area experiences significant congestion for about 20 minutes in the before and after school

periods, standard procedures utilized by the City of Dublin and other agencies evaluate level of service over a full one-hour period. This results in overall acceptable conditions for the busiest peak hours.

Existing plus Project Conditions

Under both trip assignment scenarios, all intersections would continue to operate at LOS D or better during all peak periods, and all 95th percentile queue lengths would be accommodated within available storage lanes. The project is expected to produce **less than significant impacts**.

Future Conditions

This scenario represents the changes to traffic on Positano Drive due to the redirection of school trips from Positano Parkway to the planned Cottonwood Creek Elementary school on Central Parkway. Under this scenario, all study intersections improve but continue to operate at acceptable LOS D or better during all peak periods. The 95th percentile queue lengths at the intersections of Positano Parkway & West Cantara Drive/Salerno Drive and Fallon Road & Positano Parkway are all accommodated within available storage lanes.

Future plus Project Conditions

Under both trip assignment scenarios, all intersections would continue to operate at LOS D or better during all peak periods, and all 95th percentile queue lengths would be accommodated within available storage lanes. The project is expected to produce **less than significant impacts**.

Site Access, Circulation, and Parking

The project site would be accessed via two 25-foot driveways, one of which may be restricted to emergency vehicles only. Under either project alternative, site access and circulation would be **adequate**. The proposed project would provide 90 parking spaces, including four accessible spaces and eight clean air/vanpool-only spaces. This is higher than the minimum shared parking supply of 83 spaces, required under City of Dublin zoning requirements for community centers and shared parking. The project is expected to produce a **less than significant impact**. TJKM recommends installing an ingress-only driveway along Positano Parkway.

INTRODUCTION

This report summarizes the results of the Traffic Impact Study (TIS) conducted for the proposed Safari Kids Daycare Center to be located at the southwest corner of the intersection of Positano Parkway and West Cantara Drive in the City of Dublin, California. The purpose of this traffic impact study is to evaluate the potential traffic impacts resulting from the development of the proposed project on the surrounding transportation system.

The proposed project consists of a 14,963 square foot (sq. ft.) building consisting of a 10,667 sq. ft. daycare center and 4,296 sq. ft. community center, on a site that is currently vacant. The proposed daycare center is expected to accommodate between 190 and 200 students. The community center would be available for rent and would operate outside of the hours the daycare is active.

This chapter discusses the TIS purpose, project study area, analysis scenarios and levels of service methodology, and criteria used to identify significant impacts. Two project scenarios were evaluated, based on two driveway operational alternatives. A staff report by City of Dublin staff, released April 10, 2018, discussed driveway visibility, emergency vehicle access, trash access, vehicle access, on-site circulation, parking, and pedestrian access. This report briefly discusses site access and circulation for both project access alternatives.

STUDY INTERSECTIONS AND SCENARIOS

TJKM evaluated traffic conditions at three study intersections during three peak periods: a.m., school, and p.m. peak periods. The 7:00-9:00 a.m. peak period corresponds with peak morning commute and school drop-off traffic. The 2:00-4:00 p.m. school peak period corresponds with the period when most children are picked up from the elementary school. The 4:00-6:00 p.m. peak period corresponds with peak afternoon commute traffic. The highest single one-hour periods recorded for each peak period are used in the analysis. The study intersections and associated traffic controls are as follows:

1. Positano Parkway & West Cantara Drive/Salerno Drive (signal)
2. Positano Parkway & Vinton Avenue (signal)
3. Fallon Road & Positano Parkway (signal)

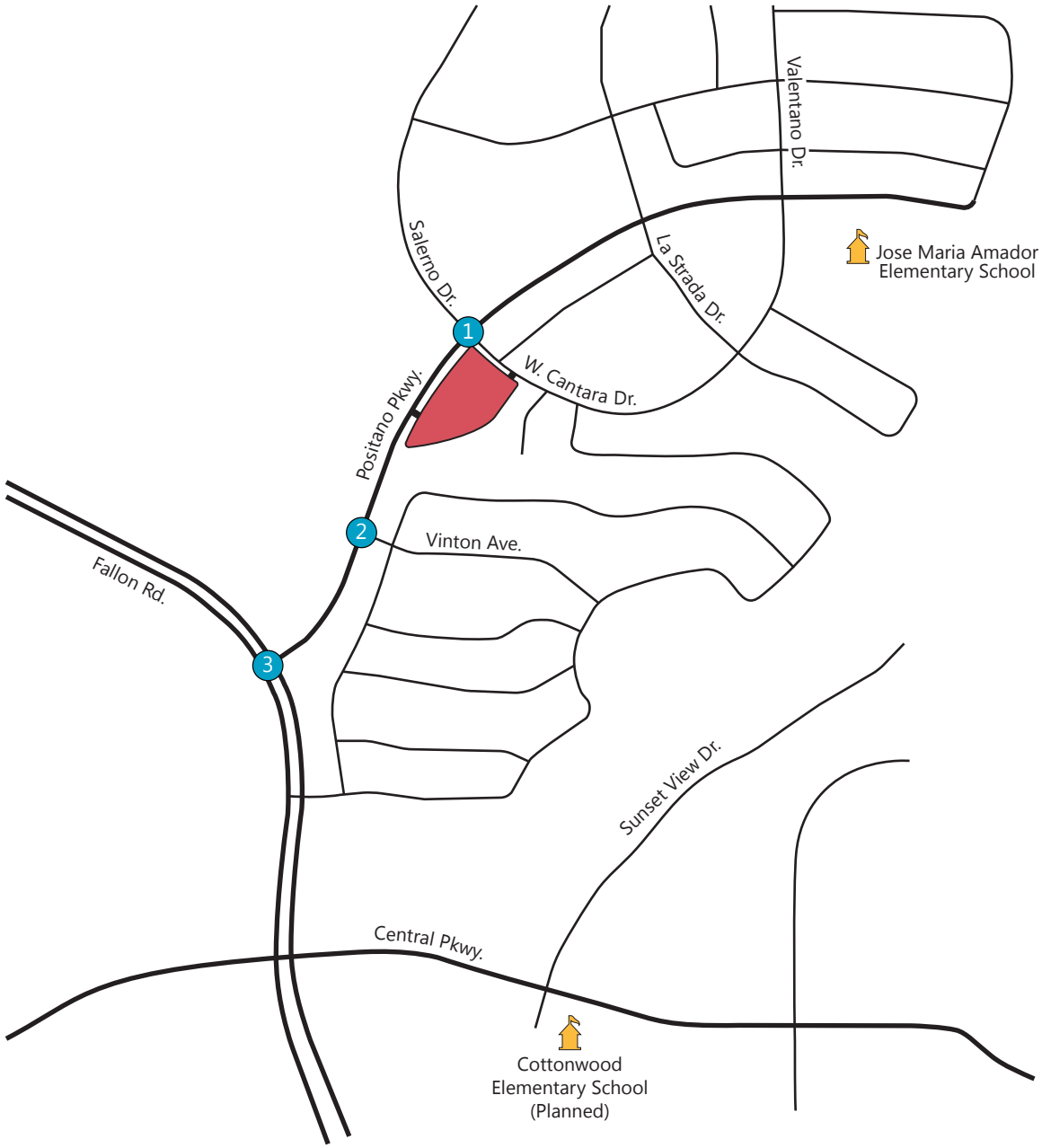
Figure 1 illustrates the study intersections, roadway segments and the vicinity map of the proposed project. **Figure 2** shows the proposed project site plan.

This study addresses the following four traffic scenarios:

1. **Existing Conditions** – This scenario evaluates all the study locations based on existing traffic volumes, lane geometry and traffic controls.
2. **Existing plus Project Conditions** – This scenario is identical to Existing Conditions, but with the addition of traffic from the proposed project.
3. **Future Conditions** – This scenario represents the changes to traffic on Positano Drive due to the redirection of school trips to the planned Cottonwood Creek Elementary school near the project site.

4. **Future plus Project Conditions** – This scenario is identical to Future Conditions, but with the addition of traffic from the proposed project.

Vicinity Map



Legend

- Project Site
- Study Intersection
- Elementary School

N

TJKM

Project Site Plan

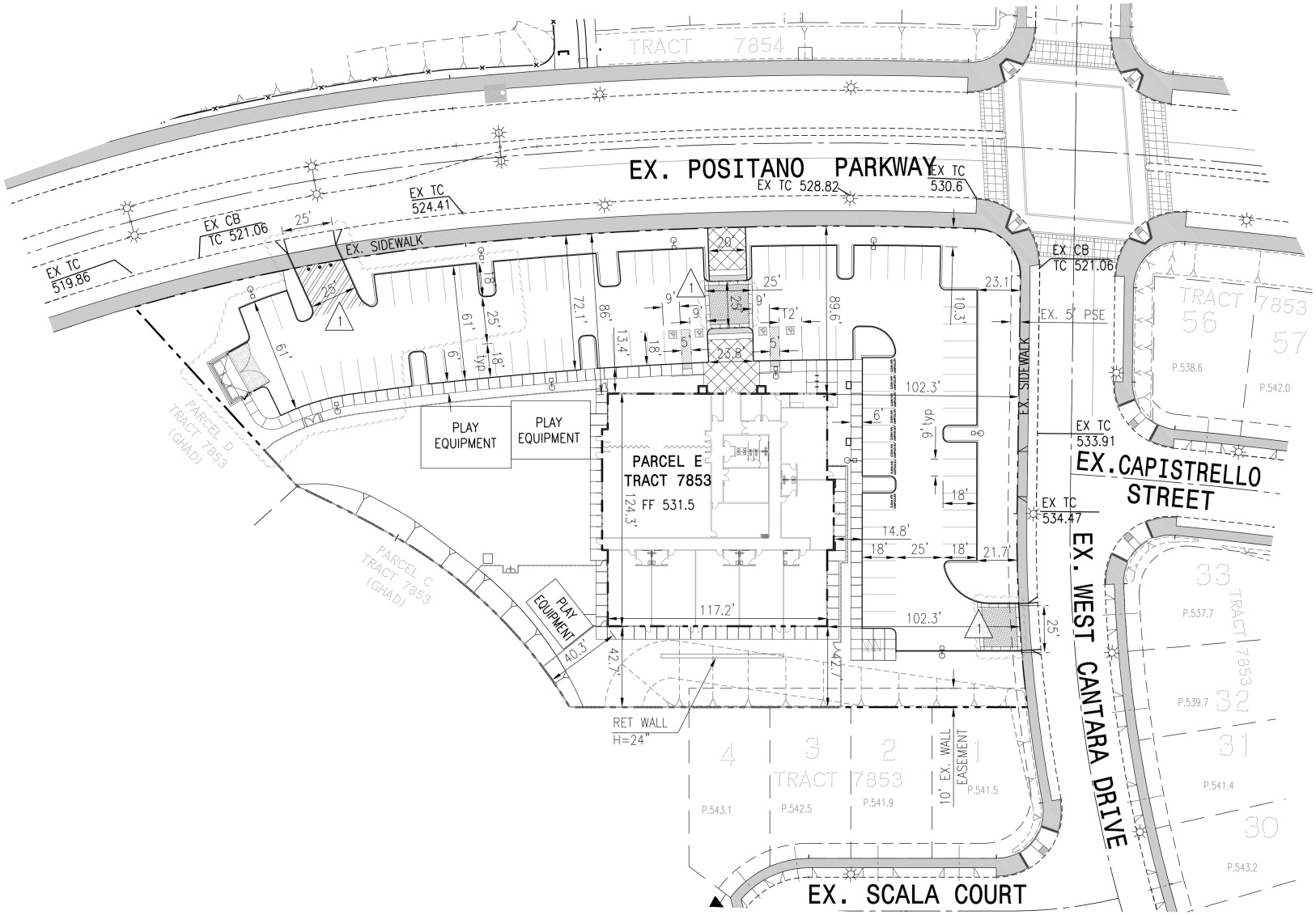


Figure 2

STUDY METHODOLOGY

This section describes the methods used to determine the traffic conditions for each scenario described above. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

LEVEL OF SERVICE ANALYSIS METHODOLOGY

LOS is a qualitative measure that describes operational conditions as they relate to the traffic stream and perceptions by motorists and passengers. The LOS generally describes these conditions in terms of such factors as speed, travel time, delays, freedom to maneuver, traffic interruptions, comfort, convenience, and safety. The operational LOS are given letter designations from A to F, with A representing the best operating conditions (free-flow) and F the worst (severely congested flow with high delays). Intersections generally are the capacity-controlling locations with respect to traffic operations on arterial and collector streets in urban areas.

Signalized Intersections

The study intersections under traffic signal control were analyzed using the 2000 Highway Capacity Manual (HCM) Operations Methodology for signalized intersections described in Chapter 16 (HCM 2000). TJKM utilized HCM 2000 methodology at the request of the City. This methodology determines LOS based on average control delay per vehicle for the overall intersection during peak hour intersection operating conditions. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections was calculated using Synchro 9.0 analysis software and was correlated to a LOS designation as shown in **Table 1**. At most elementary schools, there is significant congestion during before and after school periods for about 20 minutes. However, the level of service evaluates conditions averaged over a full peak hour. Therefore, the level of service during the busiest 20 minutes are softened when averaged and reported over a full 60 minutes.

Table 1: Unsignalized Intersection Delay and LOS Definitions

Level of Service	Description	Average Control Delay
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	10.0 or less
B	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	10.1 to 20.0
C	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though may still pass through the intersection without stopping.	20.1 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major-contributing causes of such delay levels.	greater than 80.0

Source: Highway Capacity Manual 2010, (Transportation Research Board, 2010)
Average Control Delay per vehicle in seconds

Significant Impact Criteria and Level of Service Standards

The transportation impact analysis assesses how the study area's transportation system would operate with the implementation of the proposed project. The potential impacts were identified by applying a set of significance criteria based on the California Environmental Quality Act (CEQA) guidelines and set forth by the City of Dublin, and the Alameda County Transportation Commission (CTC).

City of Dublin Intersections

The City of Dublin General Plan specifies LOS D as the minimum acceptable level of service for intersections in Dublin. A project impact is considered to be significant if:

- The project traffic causes the intersection operations to degrade from an acceptable LOS D or better under no project conditions to LOS E or worse under project conditions (unless within the boundaries of the Downtown Dublin Specific Plan area); or
- If the intersection is already operating below an acceptable threshold (i.e., at LOS E or LOS F) under no project conditions and the project adds 50 or more peak hour trips to the intersection.

EXISTING CONDITIONS

This section describes existing conditions in the immediate project site vicinity, including roadway facilities, bicycle and pedestrian facilities, and available transit service. In addition, existing traffic volumes and operations are presented for the study intersection, including the results of LOS calculations.

EXISTING SETTING AND ROADWAY SYSTEM

Important roadways adjacent to the project site are discussed below:

Fallon Road within the project vicinity is a six lane, generally north-south arterial, connecting the neighborhoods in the project vicinity to east-west arterials and I-580. The posted speed in the project vicinity is 45 miles per hour (mph).

Positano Parkway within the project vicinity is a two lane, southwest-northeast collector street connecting to Fallon Road in the southwest and serving Jose Maria Amador Elementary School. The posted speed limit within the project vicinity is 35 mph. This roadway has a two-lane divided cross section with a landscaped median. The roadway is not wide enough to accommodate intersection U-turns east of Fallon Road. It provides local access to residential land uses and the Amador School. An entrance driveway from the project site is proposed to be provided on Positano Parkway.

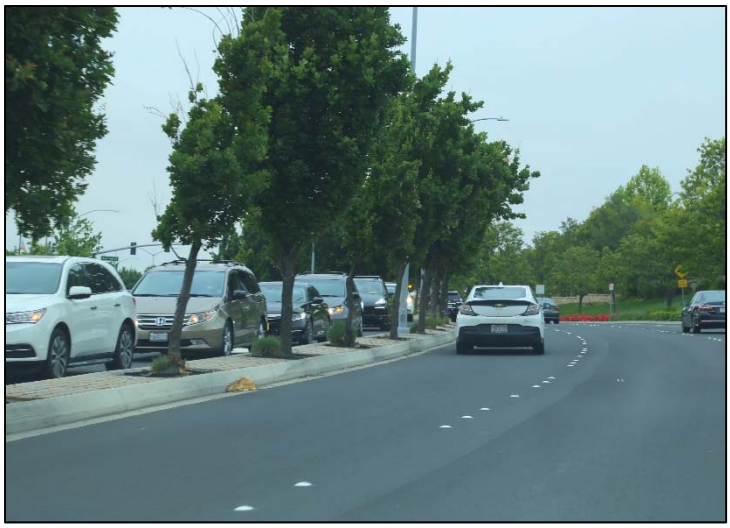
Cantara Drive (**West** and **East**) within the project vicinity is a two lane, generally east-west collector street connecting in a looped fashion twice to Positano Parkway. Near the proposed project, the street is named West Cantara Drive. West Cantara Drive changes designation at Positano Parkway and continues to the north as Salerno Drive. Near the Amador School and the adjacent park, it is named East Cantara Drive. East Cantara changes its name near the school north of Positano Parkway and continues to the north as Valentano Drive. The speed limit within the project vicinity is 25 mph. The main driveway to the project site is located on West Cantara Drive.

Salerno Drive within the project vicinity is a two lane, east-west collector street connecting Armantea Way in the north to Positano Parkway in the south. The posted speed limit within the project vicinity is 25 mph.

Vinton Avenue within the project vicinity is a two lane, east-west collector street connecting Positano Parkway in the west and Jordan Ranch Drive in the east. The speed limit within the project vicinity is 25 mph.

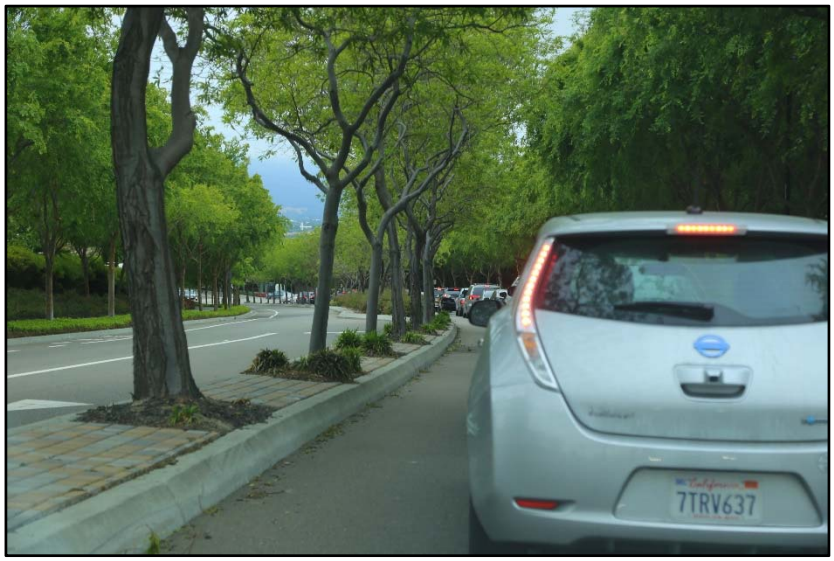
Existing Traffic Conditions

A field review of morning traffic conditions in the project vicinity was conducted on multiple occasions including Thursday, May 24, 2018, when the accompanying photos were taken. TJKM observed that congestion exists on Positano Parkway in the morning period between about 8:00 and around 8:35. During this period eastbound traffic on Positano Parkway, consisting primarily of motorists taking children to the elementary school. During the same period, westbound residents from the area are leaving their homes to go to work. After the parents drop off their children, many of them travel back down Positano Parkway in the same direction as the outbound commuters. The first photo was taken at 8:07, the second at 8:16 and the lower photo on Fallon Road at 8:18 a.m.



West Cantara Drive serves as a backdoor short cut to and from the school for some parents. This results in very heavy traffic on these two streets, but confined to a fairly short period. The uphill (eastbound) congestion is focused between about 8:10 and 8:25 a.m. while the westbound congestion lasts for a longer period, until about 8:35. School starts at 8:30. The busiest traffic during this period is associated with student drop-offs for Amador Elementary School.

Queuing at the study intersections was most pronounced on Positano Parkway, West Cantara Drive, and Fallon Road. Around 8:00 a.m., roadways were lightly used, and dedicated turn lanes generally had no more than one vehicle queuing at any of the study intersections. By 8:15 a.m., longer queues had developed, filling available turn lane storage. In some



places, queues from one intersection spilled back to the previous intersection. Between about 8:20 a.m. and 8:30 a.m., queues at all three study intersections were lengthy.

The top photo shows traffic on W. Cantara in advance of where the Safari Kids driveway is proposed. These are mostly leaving the school taking the "back door" route after dropping off the school children. This photo was taken at 8:29. The lower photo taken at 8:34, shows the downhill traffic is still busy, while the uphill traffic has fully dispersed.

The applicant has indicated that most of the all-day Safari Kids students will arrive prior to 8 a.m. with minimal additional arrivals after that time, particularly between 8 a.m. and 8:30 a.m. These photos demonstrate that with the elementary school 8:30 a.m. starting bell, there will be minimal overlap of the traffic from the elementary school and the day-care facility.

Existing Pedestrian Facilities

Walkability is defined as the ability to travel easily and safely between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal "walkable" community includes wide sidewalks, a mix of land uses such as residential, employment, and shopping opportunities, a limited number of conflict points with vehicle traffic, and easy access to transit facilities and services.

Pedestrian facilities consist of crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access the destinations such as institutions, businesses, public transportation, and recreation facilities.

In the project vicinity, the study intersections are signalized. Surrounding intersections are generally stop-controlled. Crosswalks are provided on most collector streets, and signalized intersections provide crosswalks with pedestrian signals. Continuous sidewalks are provided throughout the vicinity, with a

network of multi-use trails between neighborhoods without direct street connections. Curb cuts are uniformly compliant with the Americans with Disabilities Act. Parking strips with trees provide shade to the sidewalks on most major collectors. There is adequate street lighting in the vicinity.

The neighborhoods of the project vicinity are generally new construction, implementing best practices for pedestrian accessibility and connectivity. However, the lack of non-residential land uses prevents the area from being considered truly walkable. The existing pedestrian facilities in the study area are shown in **Figure 3.** Existing peak hour pedestrian counts are provided in **Appendix A.**

Existing Bicycle Facilities

Bicycle facilities include the following:

- Bike Paths (Class I) – Paved trails that are separated from roadways
- Bike Lanes (Class II) – Lanes on roadways designated for use by bicycles through striping, pavement legends, and signs
- Bike Routes (Class III) – Designated roadways for bicycle use by signs or other markings which may or may not include additional pavement width for cyclists

Class II bicycle lanes are provided along both sides of Positano Parkway and Fallon Road within the project vicinity. Class I multiuse trails provide connectivity between neighborhoods without direct street connections. There are adequate signage/markings for the bicyclists to maneuver without confusion. Overall, existing bicycle facilities provide adequate connectivity between the proposed project site and the adjacent residential neighborhoods.

The existing bicycle facilities in the study area are shown in **Figure 3.** Existing peak hour bicycle counts are provided in **Appendix A.**

Existing Transit Facilities

There are three bus stops on Positano Parkway in the immediate vicinity of the project site; one pair of bus stops are located between La Strada Drive and East Cantara Drive/Valentano Drive, and one eastbound bus stop is located north of Vinton Avenue. Existing transit service to the project is provided by Tri-Valley Wheels. The Wheels system provides bus service to various communities in eastern Alameda County, including the City of Dublin. It operates local and school buses and is a paratransit service provider. Buses are generally equipped with front-loading racks that can hold up to two bicycles. In the immediate vicinity of the proposed project, Bus Route #9 provides local weekday service to the project site and vicinity, operating as a loop based at the East Dublin/Pleasanton BART Station with three circuits in the morning and four in the afternoon. Route #501 is a school route, connecting the neighborhood to Dublin High School with three morning and two afternoon trips on school days. **Table 3** describes the services and frequency for the transit services. The existing transit facilities in the study area are shown in **Figure 3.**

Table 3: Existing Transit Services

Route #	From	To	Weekdays	
			Operating Hours	Headway (minutes)
2	East Dublin/Pleasanton BART Station	Positano Pkwy. & Valentano Dr.	6:30-9:20 a.m. 3:20-6:50 p.m.	60
501	Positano Pkwy. & Valentano Dr.	Dublin High School	6:30-7:30 a.m. 3:40-4:30 p.m.	Varies

Source: Tri-Valley Wheels website, www.wheelsbus.com

Intersection Level of Service Analysis – Existing Conditions

This scenario evaluates the study intersections based on existing traffic volumes, lane geometry and traffic controls. The existing operations of the study intersections were evaluated for the highest one-hour volume during the weekday morning, school, and afternoon peak periods. Turning movement counts for vehicles, bicycles, and pedestrians were conducted during typical weekday a.m. peak, afternoon school peak, and p.m. peak periods at the study intersections in May 2018. **Appendix A** includes data sheets for the collected vehicle, bicycle, and pedestrian counts. **Figure 4** illustrates the existing traffic volumes, lane geometries and controls at the study intersections. The peak hour factors calculated from the existing turning movement counts were used for the study intersections for the Existing Conditions analysis. The results of the LOS analysis using the HCM 2000 methodology and Synchro 9.0 software program for Existing Conditions are summarized in **Table 4**.

Under this scenario, all study intersections operate at LOS D or better during all peak periods. The highest delays occur during the morning peak period, which coincides with the drop-off period for all grades at Jose Maria Amador Elementary School. LOS worksheets are provided in **Appendix B**.

Table 4: Intersection Level of Service Analysis – Existing Conditions

ID	Intersection	Intersection Control	Peak Hour[1]	Existing Conditions	
				Average Delay	LOS[2]
1	Positano Pkwy & W. Cantara Dr./ Salerno Dr.	Signalized	AM School PM	46.4 26.8 36.1	D C D
2	Positano Pkwy & Vinton Ave.	Signalized	AM School PM	25.1 6.5 7.7	C A A
3	Fallon Rd. & Positano Pkwy	Signalized	AM School PM	20.2 12.2 12.3	C B B

Notes:

[1]AM – morning peak hour (between 7 and 9 a.m.), School – afternoon school-related peak hour (between 2 and 4 p.m.), PM – afternoon peak hour (between 4 and 6 p.m.)

[2]LOS – Level of Service calculations conducted using the Synchro 9.0 level of service analysis software package, which applies the methodology described in the 2000 HCM.

Bold text indicates intersection operates at a deficient Level of Service.

Existing Pedestrian, Bicycle, and Transit Facilities

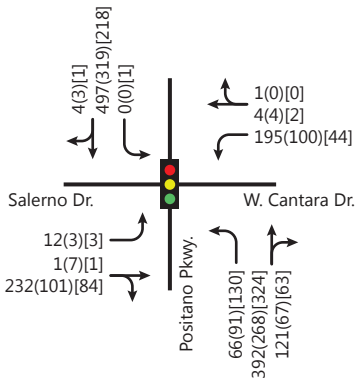
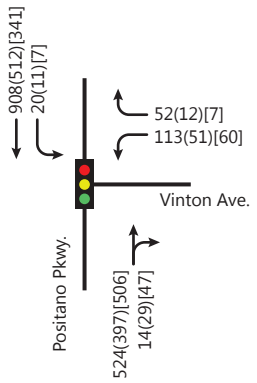
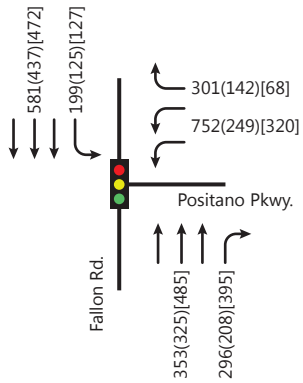
Legend

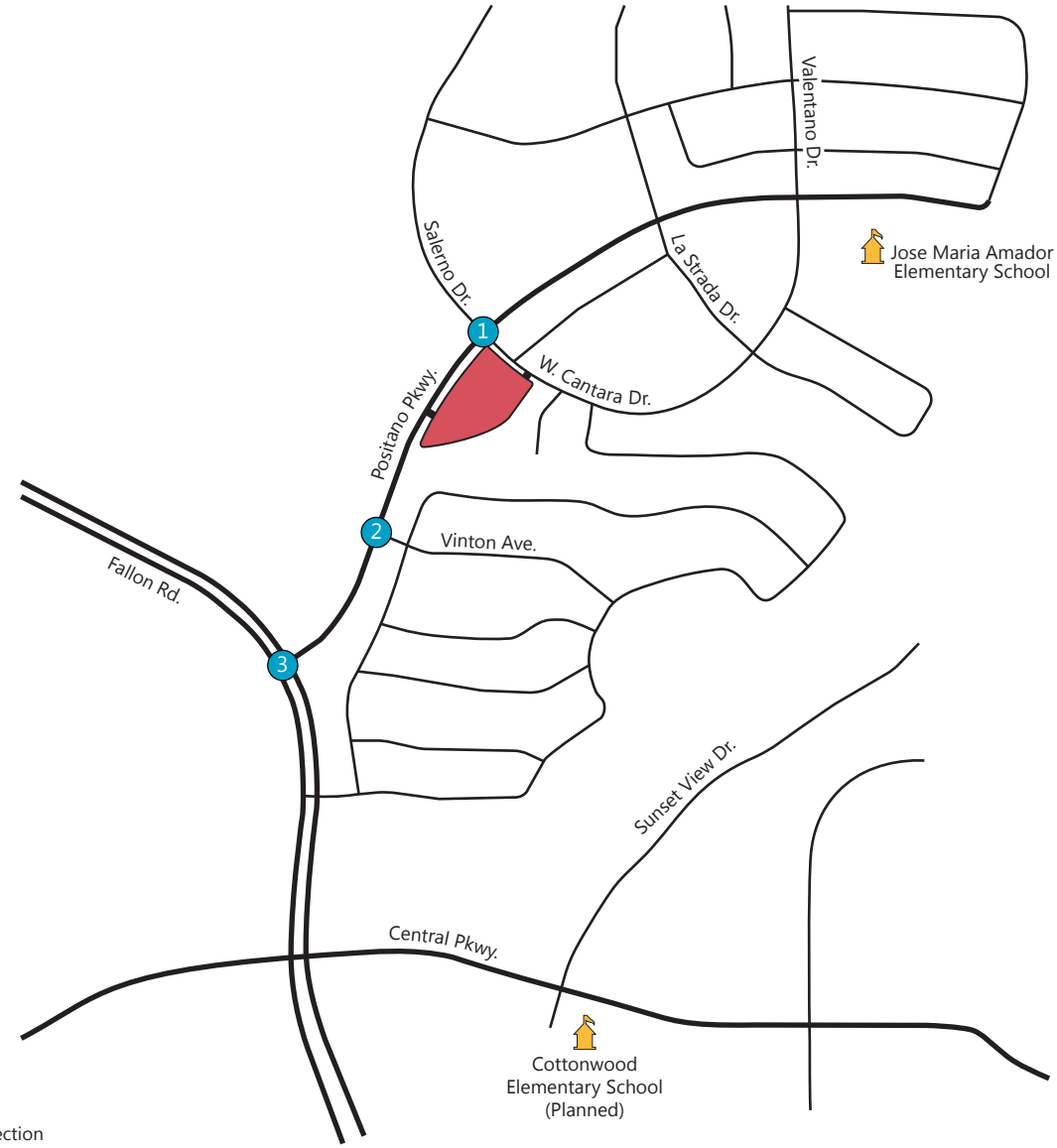
- Study Intersection
- Sidewalk Missing
- Crosswalk
- Class I Bike/Multi-Use Trail
- Class II Bike Lane
- Bus Route
- Bus Stop

N

TJKM

Existing Conditions Peak Hour Traffic Volumes, Lane Geometry, and Traffic Controls

Intersection #1 Positano Pkwy. & W. Cantara Dr. / Salerno Dr.	**Intersection #2** Positano Pkwy. & Vinton Ave.	**Intersection #3** Fallon Rd. & Positano Pkwy.
		



Legend

- Project Site
- Study Intersection
- Elementary School
- XX AM Peak Volume
- (XX) School Peak Volume
- [XX] PM Peak Volume

N

TJKM

EXISTING PLUS PROJECT CONDITIONS

These analysis scenarios present the impacts of the proposed project at the study intersections and surrounding roadway system. This scenario is similar to Existing Conditions, but with the addition of traffic from the proposed project. Two project alternatives were considered, with variations in driveway entry/exit operations.

PROJECT TRIP GENERATION

TJKM developed estimated project trip generation for the proposed project based on information provided by the project applicant. The proposed daycare center is expected to accommodate between 190 and 200 students. Drop-off and pickup periods would be staggered by age group and feature vanpools to minimize the number of peak hour trips generated. Based on the children arrival patterns, TJKM expects there would be 100 children arriving between 7 a.m. and 8 a.m. However, during the existing a.m. peak hour -- between 7:45 a.m. and 8:45 a.m. – 40 of the children arrive. Sixty Safari Kids children arrive during the public school afternoon peak hour between 2:45 a.m. and 3:45 p.m. Many of these arrive in vans. There are 100 Safari Kids children leaving during the existing p.m. peak hour between 5:00 p.m. and 6:00 p.m. Peak hour trips were calculated for these number of students. The community space would operate entirely outside peak hours.

Table 6 shows the trip generation expected to be generated by the proposed project. Based on the planned drop-off and pickup operations, the site is expected to generate 80 vehicle trips (40 inbound and 40 outbound) during the a.m. peak hour, 60 vehicle trips (30 inbound and 30 outbound) during the afternoon school peak and 160 vehicle trips (80 inbound and 80 outbound) during the p.m. peak hour. Unlike public or private schools in which most of the students arrive and depart at the same time, usually resulting in congested streets and parking lots, preschools have a considerably less pronounced peak in traffic. This results in fewer impacts on parking lots, at driveways and on surrounding streets and intersections. Although it is expected that few students and their parents would walk to school, some students are likely to be dropped off at the preschool by parents on their way to work, thereby not creating a new trip on the road network. As noted, the daycare would provide vanpools to serve many of the after-school arriving daycare students.

Table 6: Project Trip Generation

Land Use	*AM Peak Hour*				*School PM Peak Hour*				*PM Peak Hour*			
	Size	*In*	*Out*	*Total*	*Size*	*In*	*Out*	*Total*	*Size*	*In*	*Out*	*Total*
Day Care Center	***100 kids***	40	40	80	***60 kids***	30	30	60	***100 kids***	80	80	160

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Trip distribution is a process that determines in what proportion vehicles would be expected to travel between the project site and various destinations outside the project study area, Trip assignment also determines the various routes that vehicles would take from the project site to each destination using the calculated trip distribution. Trip distribution assumptions for the proposed project were developed based on existing travel patterns and knowledge of the study area.

The distribution assumptions are as follows:

- 25 percent to/from Fallon Road to the northwest
- 35 percent to/from Fallon Road to the south
- 10 percent to/from Salerno Drive to the northwest
- 10 percent to/from Positano Parkway to the northeast
- 10 percent to/from West Cantara Drive to the southeast

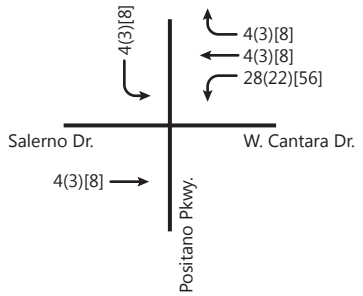
Trip assignment varied between the two project alternatives based on driveway operations. Entry/exit operations for the two alternatives are as follows:

1. Entry at western driveway (Positano Parkway) and both entry and exit at the northern driveway (West Cantara Drive).
2. Entry and exit at northern driveway. Western driveway on Positano Parkway restricted to emergency access only.

Figure 5 illustrates the trip distribution percentages and trip assignment project volumes developed for the proposed project under each project alternative. The assigned project trips were then added to traffic volumes under Existing Conditions to generate Existing plus Project Conditions traffic volumes.

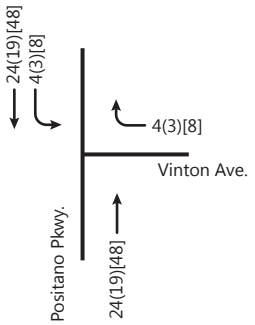
Project Trip Distribution and Assignment

Intersection #1
Positano Pkwy. & W. Cantara Dr. / Salerno Dr.

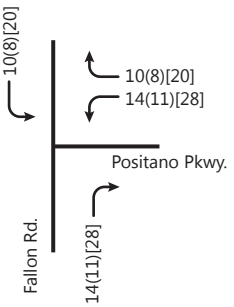


Project Alternative 1

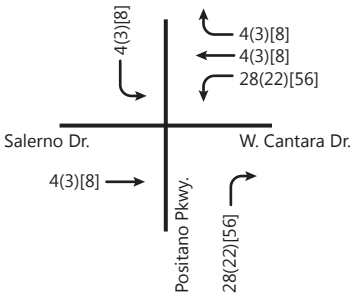
Intersection #2
Positano Pkwy. & Vinton Ave.



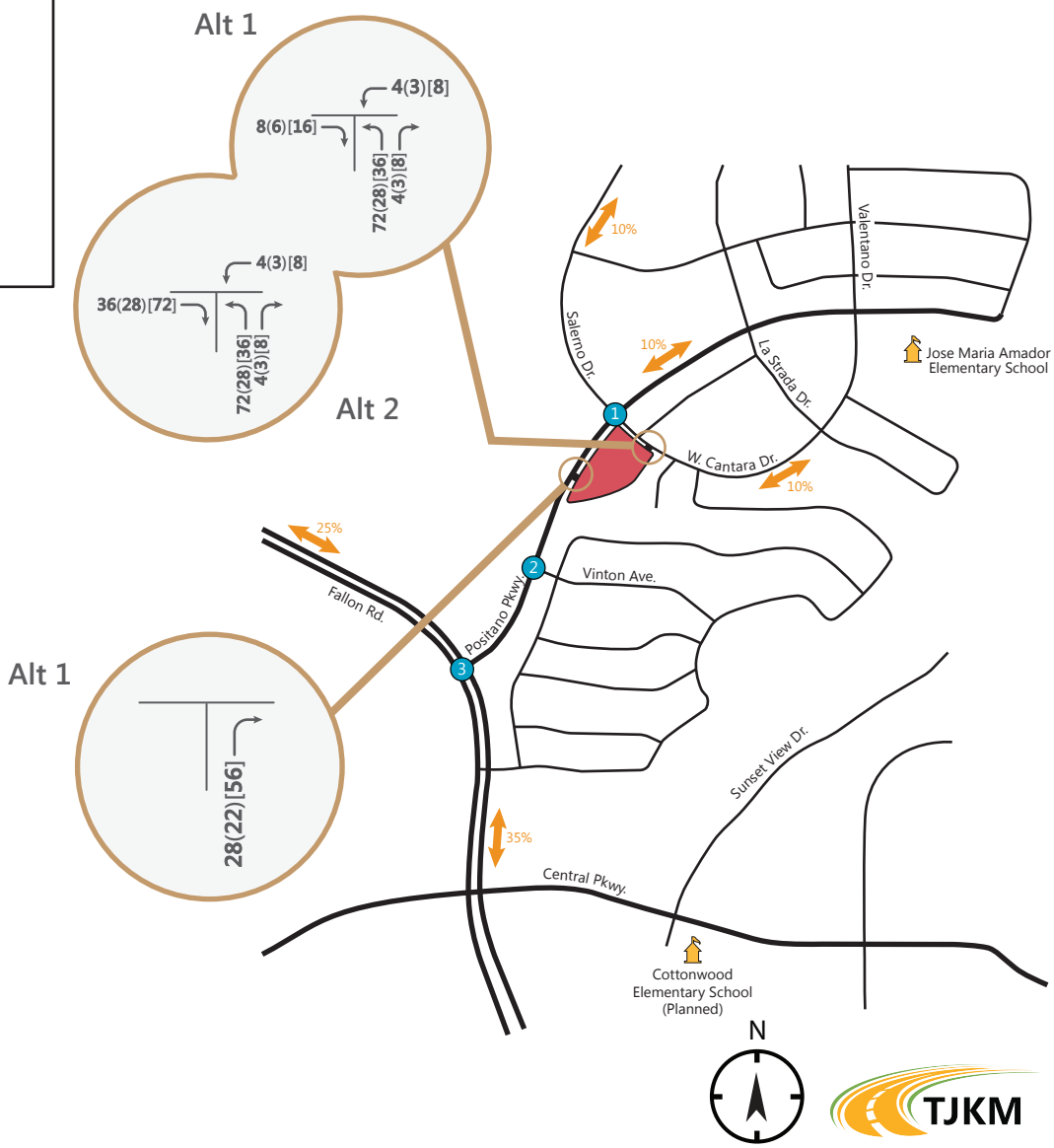
Intersection #3
Fallon Rd. & Positano Pkwy.



Intersection #1
Positano Pkwy. & W. Cantara Dr. / Salerno Dr.



Project Alternative 2



Legend

- Project Site
- Study Intersection
- XX Trip Distribution
- Elementary School
- XX AM Peak Volume
- (XX) School Peak Volume
- [XX] PM Peak Volume

Intersection Level of Service Analysis – Existing plus Project Conditions

Intersection levels of service were calculated with the new traffic added by each proposed project alternative to evaluate the operating conditions of the intersections and identify potential impacts to the roadway system. The results of the intersection level of service calculations for Existing plus Project Conditions are presented in **Table 7**. **Appendix B** contains the corresponding calculation sheets. The results for Existing Conditions are included for comparison purpose, along with the projected increases in average delay. The changes in delay between Existing and each Existing plus Project Conditions are used to identify potential significant impacts. **Figure 6** shows projected turning movement volumes at all the study intersections for Existing plus Project Conditions under each project alternative.

Under the Existing plus Project Alternative 1 scenario, all intersections would continue to operate at LOS D or better during all peak periods. The intersection of Positano Parkway & West Cantara Drive/Salerno Drive would experience an increase in average delay of 6.8 seconds in the a.m. peak hour, with smaller increases in the afternoon school and p.m. peak hours.

Under the Existing plus Project Alternative 2 scenario, all intersections would continue to operate at LOS D or better during all peak periods. The intersection of Positano Parkway & West Cantara Drive/Salerno Drive would experience an increase in average delay of 8.1 seconds in the a.m. peak hour, with smaller increases in the afternoon school and p.m. peak hours.

Project alternatives 1 and 2 led to very similar results, with alternative 1 producing a lower increase in delay during the a.m. peak hour but slightly higher increases during the afternoon school and p.m. peak hours.

Table 7: Intersection Level of Service Analysis – Existing plus Project Conditions

ID	Intersections	Peak Hour	Existing Conditions		Existing with Project Alternative 1 Conditions			Existing with Project Alternative 2 Conditions		
			Average Delay	LOS[3]	Average Delay	LOS[3]	Change in Ave. Delay[2]	Average Delay	LOS[3]	Change in Ave. Delay[2]
1	Positano Pkwy & W. Cantara Dr./ Salerno Dr.	AM	46.4	D	53.2	D	6.8	54.5	D	8.1
		School	26.8	C	34.5	C	7.7	34.3	C	7.5
		PM	36.1	D	41.6	D	5.5	40.6	D	4.5
2	Positano Pkwy. & Vinton Ave.	AM	25.1	C	29.4	C	4.3			
		School	6.5	A	7.3	A	0.8			
		PM	7.7	A	9.0	A	1.3			
3	Fallon Rd. & Positano Pkwy.	AM	20.2	C	21.7	C	1.5			
		School	12.2	B	12.0	B	-0.2			
		PM	12.3	B	13.0	B	0.7			

Notes:
[1] Level of Service calculations conducted using the Synchro 9.0 level of service analysis software package, which applies the methodology described in the 2010 HCM.
[4] Change in delay between Existing and Existing plus Project Conditions.
Bold text indicates intersection operates at a deficient Level of Service.

QUEUING ANALYSIS

Queueing operations were evaluated at selected dedicated turn lanes where the project would add trips. The 95th percentile queuing analysis results for the two signalized intersections under Existing and both Existing plus Project Conditions are summarized in **Table 5**, rounded to the nearest ten feet. (The daycare would not add left or right turning trips at Positano Parkway and Vinton Avenue. The results for Existing Conditions are included for comparison purposes, along with projected increases in queue length with the addition of project traffic under each alternative. All but one of the existing 95th percentile queues are accommodated in the available storage lengths, in all peak hours. The westbound left turn queue at the intersection of Positano Parkway & West Cantara Drive/Salerno Drive overflows the available storage length. Field observations of queuing operations at this intersection were conducted to validate calculated queue lengths. Queues were observed extending 200-250 feet back from the intersection.

The proposed project is expected to add less than one vehicle length to this overflowing queue under both project alternatives, and it is not expected to produce any new overflows. The proposed project *does not create a significant impact* by itself on the expected left-turn or right-turn queues at the study intersections.

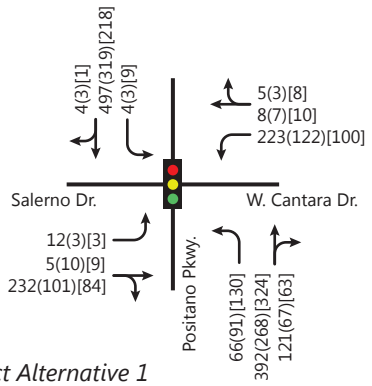
Table 8. 95th Percentile Queue Lengths

ID	Study Intersections	Lane Group	Storage Length[1]	Peak Hour	Existing	Existing plus Project Alt. 1		Existing plus Project Alt. 2	
					Queue Length[2]	Queue Length	Change in Queue	Queue Length	Change in Queue
1	Positano Pkwy & W. Cantara Dr./ Salerno Dr.	Westbound Left	100	AM	200	**240**	40	**220**	20
				School	80	90	10	90	10
				PM	50	90	40	60	10
		Northbound Through/Right	919	AM	330	430	100	420	90
				School	150	200	50	210	60
				PM	220	230	10	240	20
3	Fallon Rd. & Positano Pkwy.	Westbound Left	360	AM	230	230	0		
				School	60	70	10		
				PM	80	90	10		
		Westbound Right	420	AM	50	50	0		
				School	30	30	0		
				PM	20	30	10		
		Northbound Right	180	AM	20	20	0		
				School	40	40	0		
				PM	50	60	10		
		Southbound Left	280	AM	150	160	10		
				School	80	80	0		
				PM	80	100	20		

[1] Length in feet of dedicated turn lane, or link of roadway segment for shared movements.
[2] 95th percentile queue length (feet), rounded to nearest ten feet.

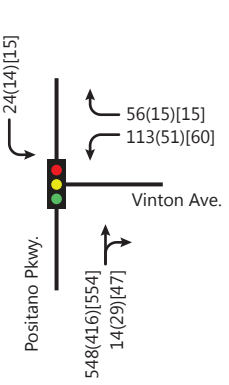
Existing plus Project Conditions Traffic Volumes, Lane Geometry, and Traffic Controls

Intersection #1
Positano Pkwy. & W. Cantara Dr. / Salerno Dr.

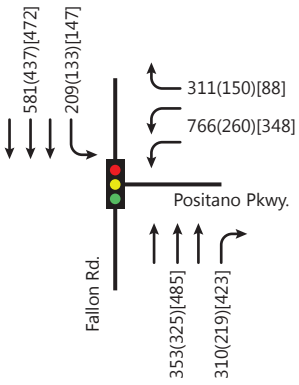


Project Alternative 1

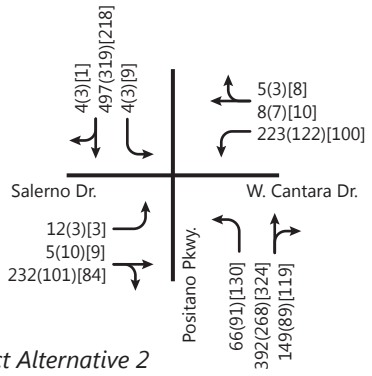
Intersection #2
Positano Pkwy. & Vinton Ave.



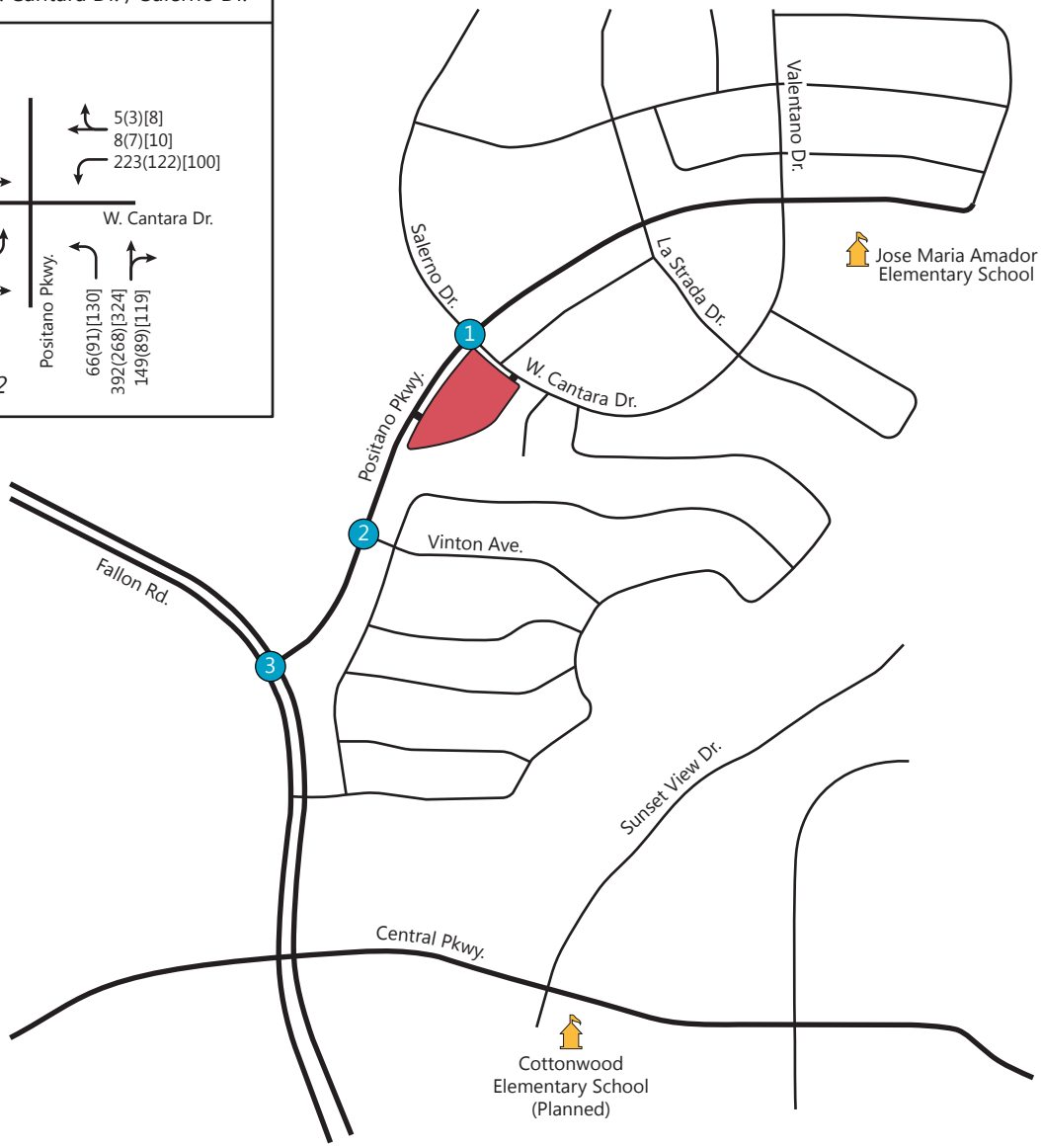
Intersection #3
Fallon Rd. & Positano Pkwy.



Intersection #1
Positano Pkwy. & W. Cantara Dr. / Salerno Dr.



Project Alternative 2



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TJKM

FUTURE CONDITIONS

This scenario is similar to Existing Conditions, taking into account the planned construction of the Cottonwood Creek Elementary school on Central Parkway. This new school is expected to draw away some students who currently attend Jose Maria Amador Elementary School, which will in turn reduce traffic volumes on Positano Parkway near the project site. The neighborhoods that will switch attendance areas to the new school account for approximately 30 percent of school traffic under existing conditions. TJKM made this calculation based on the number of homes in each of the new attendance boundaries of the three nearby elementary schools whose boundaries will change with the opening of the new school in the fall of 2018.

INTERSECTION LEVEL OF SERVICE ANALYSIS – FUTURE CONDITIONS

Intersection levels of service were calculated with expected traffic volumes after the new school opens, using existing lane geometry and intersection control. **Figure 7** shows projected turning movement volumes at all study intersections for Future Conditions. The results of the intersection level of service calculations for Future Conditions are presented in **Table 9**. Under Future Conditions, all study intersections operate at LOS D or better during all peak periods. **Appendix C** contains the corresponding calculation sheets. **Figure 7** shows projected turning movement volumes at all the study intersections for Future Conditions.

Table 9: Intersection Level of Service Analysis – Future Conditions

ID	Intersection	Intersection Control	Peak Hour[1]	Future Conditions	
				Average Delay	LOS[2]
1	Positano Pkwy & W. Cantara Dr./ Salerno Dr.	Signalized	AM	41.1	D
			School	26.1	C
			PM	36.1	D
2	Positano Pkwy & Vinton Ave.	Signalized	AM	16.2	B
			School	6.1	A
			PM	7.7	A
3	Fallon Rd. & Positano Pkwy	Signalized	AM	17.0	B
			School	11.4	B
			PM	12.3	B

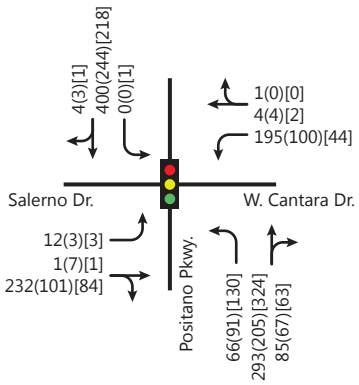
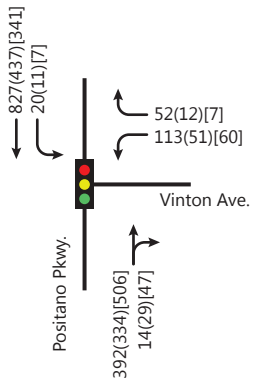
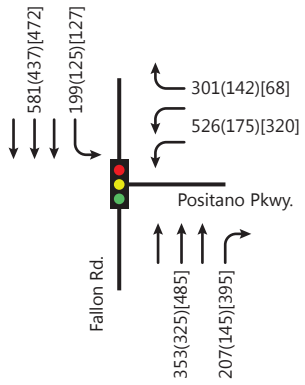
Notes:

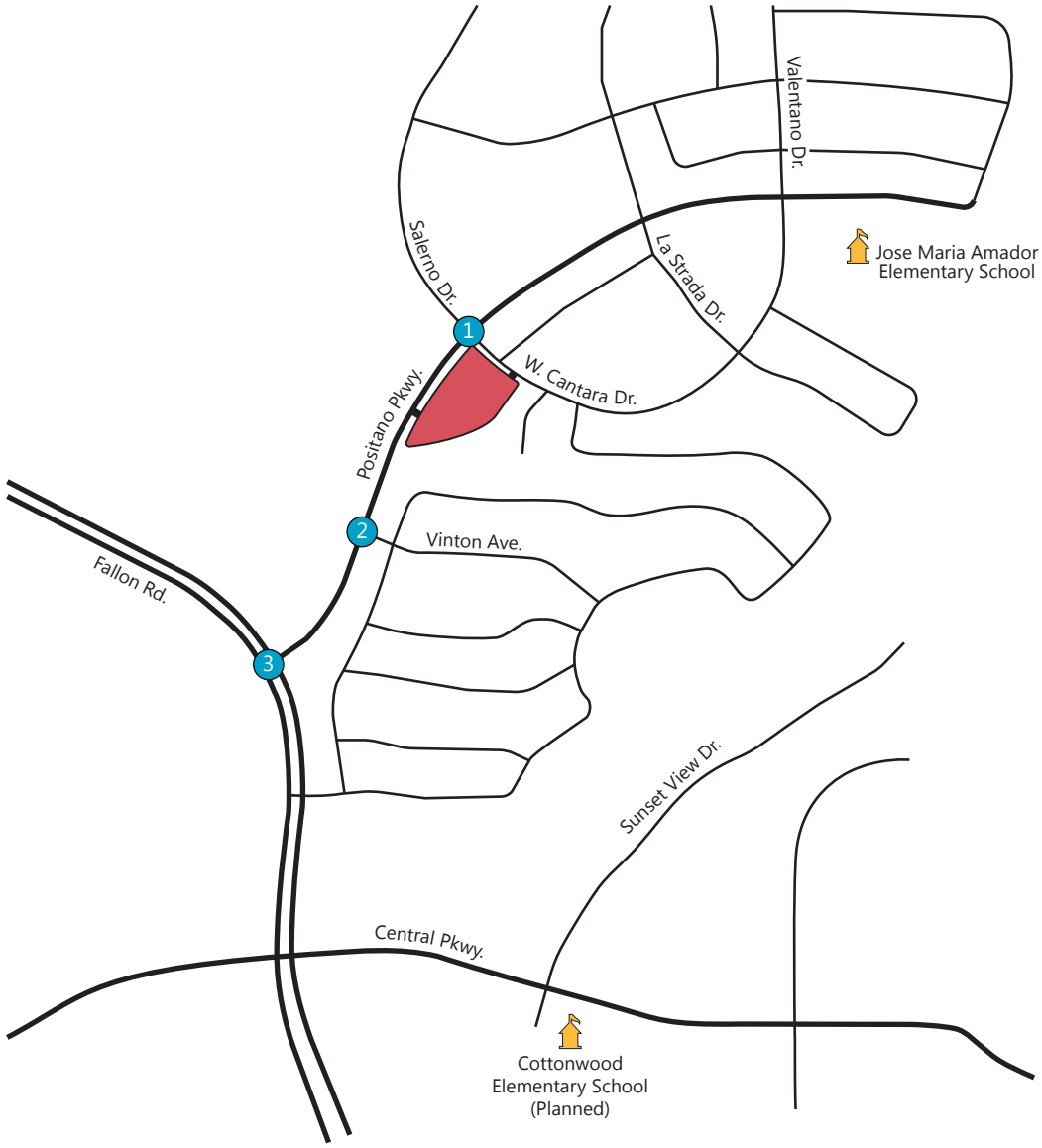
[1]AM – morning peak hour (between 7 and 9 a.m.), School – afternoon school-related peak hour (between 2 and 4 p.m.), PM – afternoon peak hour (between 4 and 6 p.m.)

[2]LOS – Level of Service calculations conducted using the Synchro 9.0 level of service analysis software package, which applies the methodology described in the 2000 HCM.

Bold text indicates intersection operates at a deficient Level of Service.

Future Conditions Traffic Volumes, Lane Geometry, and Traffic Controls

Intersection #1 Positano Pkwy. & W. Cantara Dr. / Salerno Dr.	**Intersection #2** Positano Pkwy. & Vinton Ave.	**Intersection #3** Fallon Rd. & Positano Pkwy.
		



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TJKM

FUTURE PLUS PROJECT CONDITIONS

These analysis scenarios present the impacts of the proposed project at the study intersections and surrounding roadway system in the future. This scenario is similar to Future Conditions, but with the addition of traffic from the proposed project. Two project alternatives were considered, with variations in driveway entry/exit operations.

INTERSECTION LEVEL OF SERVICE ANALYSIS – FUTURE PLUS PROJECT CONDITIONS

Intersection levels of service were calculated with the new traffic added by each proposed project alternative to evaluate the operating conditions of the intersections and identify potential impacts to the roadway system. The results of the intersection level of service calculations for Future plus Project Conditions are presented in **Table 7**. **Appendix D** contains the corresponding calculation sheets. **Figure 6** shows projected turning movement volumes at all the study intersections for Existing plus Project Conditions under each project alternative.

Under the Existing plus Project Alternative 1 scenario, all intersections would continue to operate at LOS D or better during all peak periods. The intersection of Positano Parkway & West Cantara Drive/Salerno Drive would experience an increase in average delay of 13.5 seconds in the a.m. peak hour, with smaller increases in the afternoon school and p.m. peak hours.

Under the Existing plus Project Alternative 2 scenario, all intersections would continue to operate at LOS D or better during all peak periods. The intersection of Positano Parkway & West Cantara Drive/Salerno Drive would experience an increase in average delay of 13.5 seconds in the a.m. peak hour, with smaller increases in the afternoon school and p.m. peak hours.

Project alternatives 1 and 2 led to very similar results, with alternative 2 producing a lower increase in delay during all peak hours.

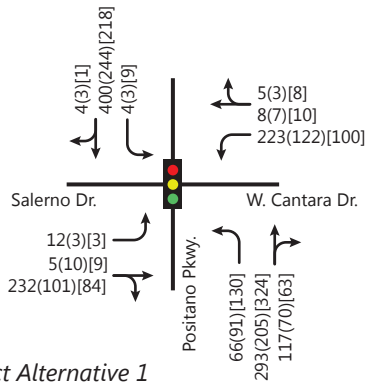
Table 10: Intersection Level of Service Analysis – Future plus Project Conditions

ID	Intersections	Peak Hour	Future Conditions		Future with Project Alternative 1 Conditions			Future with Project Alternative 2 Conditions		
			Average Delay	LOS[3]	Average Delay	LOS[3]	Change in Ave. Delay[2]	Average Delay	LOS[3]	Change in Ave. Delay[2]
1	Positano Pkwy. & W. Cantara Dr./ Salerno Dr.	AM	41.1	D	46.7	D	5.6	44.7	D	3.6
		School	26.1	C	30.6	C	4.5	30.8	C	4.7
		PM	36.1	D	41.6	D	5.5	40.6	D	4.5
2	Positano Pkwy. & Vinton Ave.	AM	16.2	B	17.9	B	1.7			
		School	6.1	A	6.7	A	0.6			
		PM	7.7	A	9.0	A	0.2			
3	Fallon Rd. & Positano Pkwy.	AM	17.0	B	18.1	B	1.1			
		School	11.4	B	11.2	B	-0.2			
		PM	12.3	B	13.0	B	0.7			

Notes:
[1] Level of Service calculations conducted using the Synchro 9.0 level of service analysis software package, which applies the methodology described in the 2010 HCM.
[4] Change in delay between Existing and Existing plus Project Conditions.
Bold text indicates intersection operates at a deficient Level of Service.

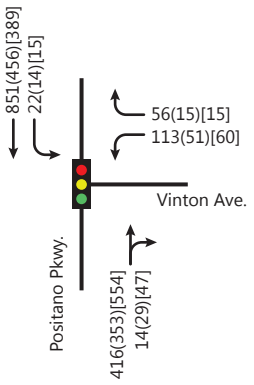
Future plus Project Conditions Traffic Volumes, Lane Geometry, and Traffic Controls

Intersection #1
Positano Pkwy. & W. Cantara Dr. / Salerno Dr.

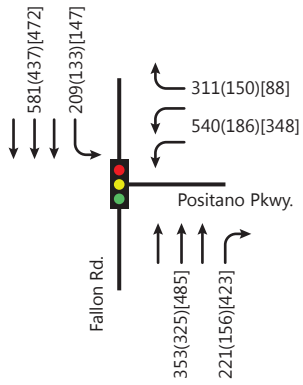


Project Alternative 1

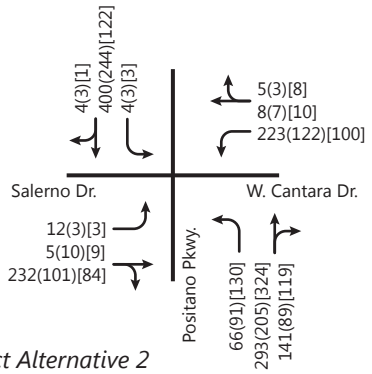
Intersection #2
Positano Pkwy. & Vinton Ave.



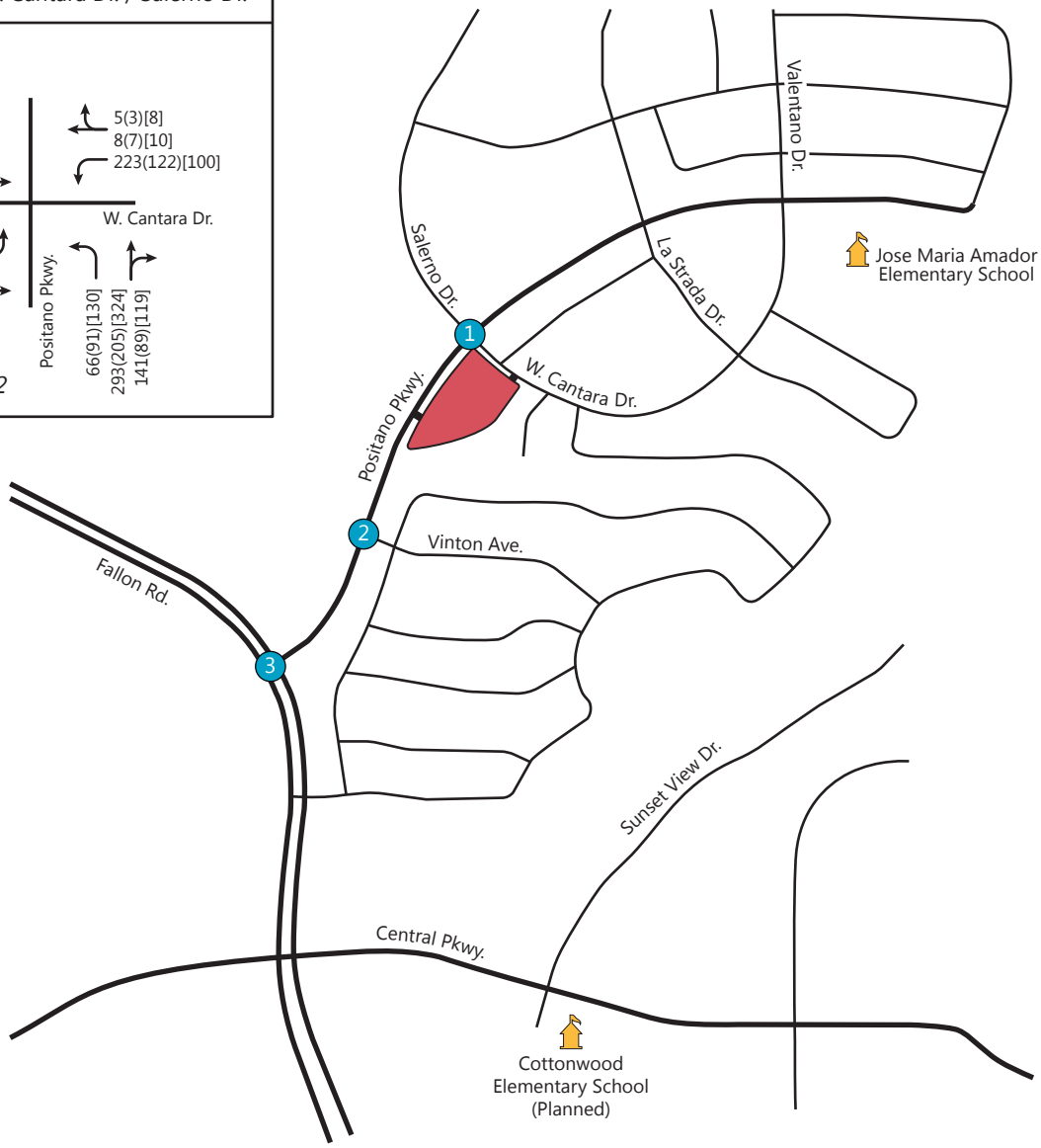
Intersection #3
Fallon Rd. & Positano Pkwy.



Intersection #1
Positano Pkwy. & W. Cantara Dr. / Salerno Dr.



Project Alternative 2



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TJKM

SITE ACCESS AND ON-SITE CIRCULATION AND OTHER IMPACTS

SITE ACCESS

This section analyzes site access and internal circulation for vehicles, pedestrians and bicycles based on the site plan presented in **Figure 2**, dated February 21, 2018. TJKM reviewed internal and external access for the project site for vehicles, pedestrians, and bicycles.

TJKM reviewed the proposed project site plan to evaluate on-site access to the project. The access to the project site will be via two driveways, one on Positano Parkway, which will be entry only and the second driveway on West Cantara Drive, which will be full access. A second access alternative was also evaluated, with the driveway on Positano Parkway restricted to emergency access only.

The entry only driveway on Positano Parkway is approximately 350 feet to the south of the intersection of Positano Parkway & West Cantara Drive/Salerno Drive and would be 25 feet wide. The full access driveway on West Cantara Drive is approximately 200 feet to the east of the intersection of Positano Parkway & West Cantara Drive/Salerno Drive and is also 25 feet wide. TJKM recommends that the Positano Parkway driveway be utilized and be designed to restrict traffic to right turn entries only. Based on the evaluation, the driveways are expected to be adequate for passenger vehicles accessing the site under both alternatives. **Figure 5** shows the project trips at the driveways.

ON-SITE CIRCULATION

Both project access alternatives would include two-way circulation with a 25 foot wide drive aisle. It is expected that 60 percent of vehicles would approach from the south. Under the project alternative that allows entry from Positano Parkway, the majority of vehicles will circulate one-way, exiting onto West Cantara Drive. Under the alternative with this entrance closed to vehicles, all traffic would circulate two-way. The largely one-way circulation pattern on-site would be advantageous in several ways: project traffic would be divided over two separate driveways rather than focused on a single location or street. The generally one-way flow simplifies on-site passenger loading and unloading, as it will be simpler for guardians dropping off and picking up students to park their vehicles and exit parking spaces with most conflicting traffic coming from only one direction.

TJKM also examined the project site plan in order to evaluate the adequacy of on-site vehicles, vans and emergency vehicles circulation. The internal circulation was reviewed for issues related to queueing, turning radii, and safety and circulation aisles. The circulation aisle accommodates two-way travel, and the turning radii appears to be adequate for the passenger vehicles, vans, emergency vehicles, and garbage trucks. Emergency vehicles can access the project via both driveways under either alternative. The trash enclosure is placed to allow easy access for trash collection. Overall, the proposed on-site vehicle circulation is adequate and should not result in any significant impacts either on-site or on City streets.

Drop-Off and Pick Up Operations

Due to the planned operating schedule for the proposed project, drop off times for the four programs offered would be staggered. Full day preschool begins at 7:30 a.m., and part-time preschool begins at 9:00 a.m., as shown in **Table 11**. The City of Dublin traffic engineer and staff observed the peak drop-off period for Amador Elementary School, located two blocks northeast of the project site, determining it to be 8:05-8:25 a.m. After-school programs would begin approximately 30 minutes after the release time for Kindergarten and grades 1-5 at the elementary school. The planned Safari Kid program operations/traffic flow and the bell schedule for Amador Elementary School are included in **Appendix C**.

For drop-off and pickup, students will be transported by a mix of parents and vanpool. According to the planned traffic flow, vanpool vehicles would transport 5-9 children at a time, significantly reducing the number of vehicles entering and exiting the site from the estimated trip generation evaluated in this report. Marked vanpool spaces are located on the north side of the project site, close to the West Cantara Drive entrance. Parents or pickup service personnel will enter the site, park their vehicle, and accompany the child to the building, where they will sign in. In the afternoon, the process is reversed. In both cases, the parent/vanpool visit to the site takes just a few minutes.

As discussed below, the proposed parking supply is based on the total amount required for the community space and is higher than the supply required by a childcare center of this size. The proposed parking supply will be sufficient to allow every family to park for pickup. As a result, on-site queueing is expected to be minimal.

Table 11: Safari Kids Student Arrivals and Departures

Program	Timings
Full Day Preschool	7:30 a.m. – 5:00 p.m.
Part-Time Preschool	9:00 a.m. – 12:00 p.m.
After School (Kindergarten)	1:00 p.m. – 6:00 p.m.
After School (School Age)	2:30 p.m. – 6:00 p.m. (M-T) 3:30 p.m. – 6:00 p.m. (W-F

Pedestrian Access

Pedestrian access to the project site will be facilitated by existing sidewalks and crosswalks on Positano Parkway, West Cantara Drive, and all other surrounding streets. As shown in Figure 2, the site plan shows a 20 foot wide pedestrian walkway from the sidewalk on Positano Parkway to the main entrance to the project. Perhaps a few of the students are expected to live within walking distance and be walked to school by their parents. An impact to pedestrians occurs if the proposed project disrupt existing pedestrian's facilities, or create inconsistencies with planned pedestrian facilities. The proposed project provides adequate and appropriate facilities for safe non-motorized mobility. The proposed project will have adequate pedestrian access to the project site from the surrounding area. The proposed project will not result in significant impacts to existing pedestrian facilities in the immediate vicinity of the project.

The proposed project does not conflict with existing pedestrian facilities; therefore, the impact to pedestrian facilities is *less-than-significant*.

Bicycle Access

There are existing Class II Bike lanes on Positano Parkway on both the sides of roadway within the vicinity of project. The surrounding local streets are generally bike-friendly, and Class I multi-use trails connect the project vicinity to surrounding neighborhoods. An impact to bicyclists occurs if the proposed project disrupts existing bicycle facilities; or conflicts or creates inconsistencies with adopted bicycle system plans, guidelines, policies or standards as per the City of Dublin. The project does not conflict with existing and planned bicycle facilities; therefore, the impact to bicycle facilities is *less-than-significant***.**

Transit

The proposed project will generate very few trips via transit services, which can be accommodated by the existing transit capacity; therefore, the project is anticipated to have a *less-than-significant impact* on transit facilities.

Parking

The City of Dublin Zoning Ordinance specifies the minimum parking requirements for both community centers and day care centers, and it allows shared parking requirements if the proposed parking supply is adequate for peak demand. Community centers without fixed seating are required to supply one space per 50 square feet in the assembly area, plus one per classroom, if any. The 4,296 sq. ft. community center portion of the project would require 86 parking spaces. Day care centers are required to provide one space per employee, plus one per company vehicle, plus a loading space for every five children or clients at the facility. The proposed Safari Kids project would consist of 25 employees, up to 229 children (based on classroom square footage), and two company vehicles, requiring a parking supply of 73 spaces. As the daycare center and community center would operate at different times, without overlap, the required parking supply for the community center represents peak parking demand and the minimum number of spaces required under City regulations. The Americans with Disabilities Act requires that parking lots providing 76-100 total parking spaces include four accessible spaces, one of which must be van accessible.

The project proposes to provide 90 spaces, including three standard accessible spaces and one van accessible spaces. Eight spaces would be restricted to clean air vehicles and vanpools. This satisfies all parking requirements. In addition, one bike rack for bicycle parking is provided at the northeast corner of the building. Based on the proposed parking spaces to be provided on site, no parking impacts are projected on City streets.

CONCLUSIONS

- The proposed preschool is expected to accommodate between 190 and 200 students. Due to a staggered program schedule, the project is expected to generate 80 vehicle trips (40 inbound and 40 outbound) during the a.m. peak hour and 60 vehicle trips (30 inbound and 30 outbound) during the afternoon school peak hour and 160 vehicles (80 inbound and 80 outbound) during the p.m. peak hour.
- Under Existing Conditions, all study intersections operate at acceptable LOS D or better during all peak periods.
- Under both trip assignment scenarios under Existing plus Project Conditions, all intersections would continue to operate at LOS D or better during all peak periods, and all 95th percentile queue lengths would be accommodated within available storage lanes. Based on the City of Dublin impact criteria the project is expected to have a less-than-significant impact at all study intersections under Existing plus Project Conditions. TJKM evaluated day care operations with and without an entrance only driveway on Positano Parkway.
- Under Future Conditions, all study intersections operate at acceptable LOS D or better during all peak periods. This scenario includes baseline traffic reductions due to the opening of the Cottonwood Creek Elementary School nearby reducing traffic demand at Amador Elementary School by about 30 percent.
- Under both trip assignment scenarios under Future plus Project Conditions, all intersections would continue to operate at LOS D or better during all peak periods. Based on the City of Dublin impact criteria the project is expected to have a less-than-significant impact at all study intersections under Future plus Project Conditions.
- Pedestrian access to the site will be via existing sidewalks on Positano Parkway and West Cantara Drive, with a 20 foot wide pedestrian entrance on Positano Parkway. There are three bus stops within the vicinity of the project site. The proposed project does not conflict with existing and planned pedestrian or bicycle facilities and will add very few trips to existing transit facilities, which can be accommodated by the existing transit capacity. Therefore, the project introduces no impacts to pedestrian, bicycle, and transit facilities.
- TJKM examined the project site plan in order to evaluate the adequacy of on-site vehicle circulation, including vans, emergency vehicles, and garbage trucks. Based on the evaluation, the proposed on-site two-way vehicle circulation is adequate under both access scenarios. No traffic operations issues are expected. Student drop off and pick up is staggered over multiple time periods; when parents drop off and pick up their students and sign in, ample on-site parking and the use of vanpooling will work well with no delays or backups into the nearby streets.
- TJKM recommends that the site plan include an entrance-only driveway on Positano Parkway.
- Based on the proposed ample supply of 90 parking spaces to be provided on site, no parking impacts are projected either on-site or on City streets.

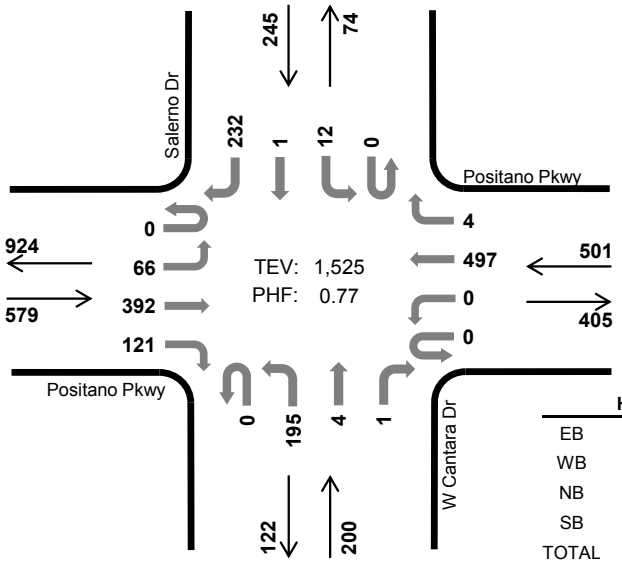
Appendix A – Existing Turning Movement Counts

W Cantara Dr
Positano Pkwy

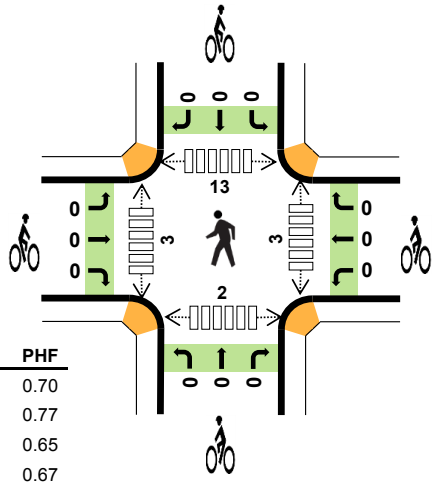
Date: 05-03-2018
Count Period: 7:00 AM to 10:00 AM
Peak Hour: 7:45 AM to 8:45 AM

N

Peak Hour



	HV %:	PHF
EB	0.3%	0.70
WB	0.2%	0.77
NB	0.0%	0.65
SB	0.8%	0.67
TOTAL	0.3%	0.77



Three-Hour Count Summaries

Interval Start		Positano Pkwy Eastbound UT	LT	TH	RT	Positano Pkwy Westbound UT	LT	TH	RT	W Cantara Dr Northbound UT	LT	TH	RT	Salerno Dr Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:45 AM		0	6	68	12	0	0	82	1	0	23	0	0	0	1	0	31	224	0
8:00 AM		0	17	136	53	0	0	129	1	0	30	2	0	0	9	0	68	445	0
8:15 AM		0	25	136	41	0	0	126	0	0	75	1	1	0	2	1	89	497	0
8:30 AM		0	18	52	15	0	0	160	2	0	67	1	0	0	0	0	44	359	1,525
Peak Hour	All	0	66	392	121	0	0	497	4	0	195	4	1	0	12	1	232	1,525	0
	HV	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	2	5	0
	HV%	-	2%	0%	0%	-	-	0%	0%	-	0%	0%	0%	-	0%	0%	1%	0%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:45 AM	2	0	0	1	*3*	0	0	0	0	*0*	0	1	3	0	*4*
8:00 AM	0	1	0	1	*2*	0	0	0	0	*0*	2	2	8	1	*13*
8:15 AM	0	0	0	0	*0*	0	0	0	0	*0*	1	0	1	1	*3*
8:30 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	1	0	*1*
Peak Hour	2	1	0	2	*5*	0	0	0	0	*0*	3	3	13	2	*21*

Three-Hour Count Summaries

Interval Start	Positano Pkwy Eastbound UT	LT	TH	RT	Positano Pkwy Westbound UT	LT	TH	RT	W Cantara Dr Northbound UT	LT	TH	RT	Salerno Dr Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	3	17	1	0	0	43	0	0	7	0	1	0	1	0	16	89	0
7:15 AM	0	8	20	1	0	0	56	0	0	11	0	0	0	0	0	33	129	0
7:30 AM	0	5	23	6	0	0	80	0	0	15	1	0	0	0	0	45	175	0
7:45 AM	**0**	**6**	**68**	**12**	**0**	**0**	**82**	**1**	**0**	**23**	**0**	**0**	**0**	**1**	**0**	**31**	**224**	617
8:00 AM	**0**	**17**	**136**	**53**	**0**	**0**	**129**	**1**	**0**	**30**	**2**	**0**	**0**	**9**	**0**	**68**	**445**	973
8:15 AM	**0**	**25**	**136**	**41**	**0**	**0**	**126**	**0**	**0**	**75**	**1**	**1**	**0**	**2**	**1**	**89**	**497**	1,341
8:30 AM	**0**	**18**	**52**	**15**	**0**	**0**	**160**	**2**	**0**	**67**	**1**	**0**	**0**	**0**	**0**	**44**	**359**	**1,525**
8:45 AM	0	12	27	4	0	0	77	0	0	35	1	1	0	0	0	40	197	1,498
9:00 AM	0	10	25	4	0	0	58	1	0	12	0	0	0	0	0	25	135	1,188
9:15 AM	0	14	26	7	0	0	46	0	0	21	0	0	0	0	0	23	137	828
9:30 AM	0	6	17	6	0	0	47	0	0	11	0	0	0	0	0	24	111	580
9:45 AM	0	4	23	4	0	0	42	0	0	11	0	0	0	0	0	13	97	480
Count Total	0	128	570	154	0	0	946	5	0	318	6	3	0	13	1	451	2,595	0
Peak Hour All	**0**	**66**	**392**	**121**	**0**	**0**	**497**	**4**	**0**	**195**	**4**	**1**	**0**	**12**	**1**	**232**	**1,525**	**0**
Peak Hour HV	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**5**	**0**
Peak Hour HV%	**-**	**2%**	**0%**	**0%**	**-**	**-**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**1%**	**0%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	1	2	0	0	*3*	0	0	0	0	*0*	0	1	1	1	*3*
7:15 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	2	0	*2*
7:45 AM	**2**	**0**	**0**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**3**	**0**	*4*
8:00 AM	**0**	**1**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**2**	**2**	**8**	**1**	*13*
8:15 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**1**	**1**	*3*
8:30 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***
8:45 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	2	1	1	*4*
9:00 AM	2	1	0	0	*3*	0	0	0	0	*0*	0	0	0	3	*3*
9:15 AM	2	1	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
9:30 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
9:45 AM	2	3	0	0	*5*	0	0	0	0	*0*	0	0	1	0	*1*
Count Total	11	8	0	2	*21*	0	0	0	0	*0*	3	6	18	7	*34*
Peak Hour	**2**	**1**	**0**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**3**	**3**	**13**	**2**	***21***

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	Positano Pkwy				Positano Pkwy				W Cantara Dr				Salerno Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	7
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	6
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	6
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
9:00 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	4
9:15 AM	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	3	7
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
9:45 AM	0	0	0	2	0	0	3	0	0	0	0	0	0	0	0	0	5	11
Count Total	0	1	7	3	0	0	8	0	0	0	0	0	0	0	0	2	21	0
Peak Hour	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**5**	**0**

Three-Hour Count Summaries - Bikes

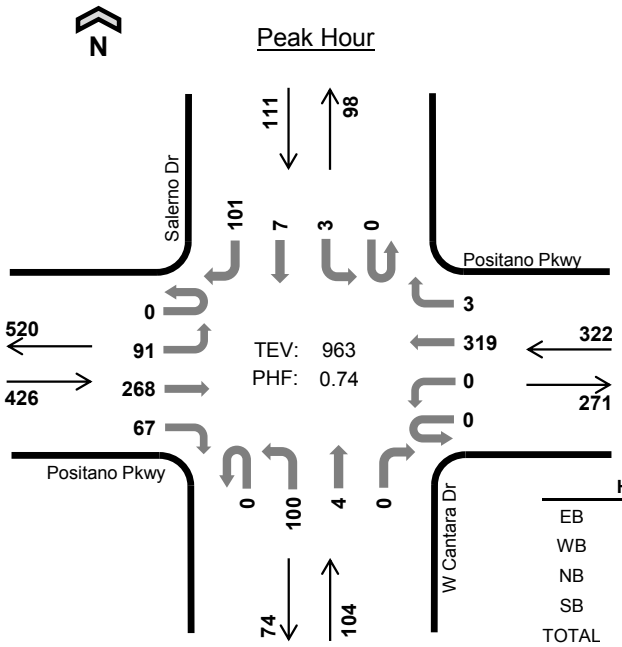
Interval Start	Positano Pkwy			Positano Pkwy			W Cantara Dr			Salerno Dr			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

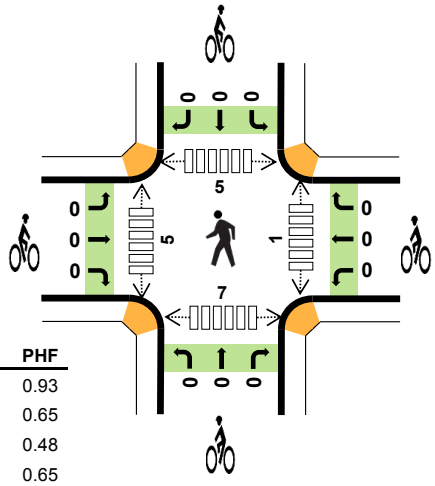
W Cantara Dr
Positano Pkwy

Date: 05-03-2018
Count Period: 2:00 PM to 6:00 PM
Peak Hour: 2:45 PM to 3:45 PM

Peak Hour



	HV %:	PHF
EB	0.5%	0.93
WB	0.0%	0.65
NB	0.0%	0.48
SB	0.9%	0.65
TOTAL	0.3%	0.74



Four-Hour Count Summaries

Interval Start		Positano Pkwy Eastbound UT	LT	TH	RT	Positano Pkwy Westbound UT	LT	TH	RT	W Cantara Dr Northbound UT	LT	TH	RT	Salerno Dr Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
2:45 PM		0	17	68	22	0	0	50	0	0	10	0	0	0	1	3	17	188	0
3:00 PM		0	22	71	11	0	0	122	1	0	52	2	0	0	2	2	39	324	0
3:15 PM		0	20	76	19	0	0	105	1	0	32	2	0	0	0	2	23	280	0
3:30 PM		0	32	53	15	0	0	42	1	0	6	0	0	0	0	0	22	171	963
Peak Hour	All	0	91	268	67	0	0	319	3	0	100	4	0	0	3	7	101	963	0
	HV	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0
	HV%	-	1%	0%	0%	-	-	0%	0%	-	0%	0%	-	-	0%	0%	1%	0%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
2:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	2	4	*6*
3:00 PM	1	0	0	1	*2*	0	0	0	0	*0*	0	2	2	3	*7*
3:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	2	0	0	*3*
3:30 PM	1	0	0	0	*1*	0	0	0	0	*0*	0	1	1	0	*2*
Peak Hour	2	0	0	1	*3*	0	0	0	0	*0*	1	5	5	7	*18*

Four-Hour Count Summaries

Interval Start	Positano Pkwy				Positano Pkwy				W Cantara Dr				Salerno Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	7	37	6	0	0	27	0	0	8	0	0	0	0	1	8	94	0
2:15 PM	0	16	50	11	0	1	27	0	0	4	1	0	0	0	1	6	117	0
2:30 PM	0	9	62	14	0	0	38	1	0	8	0	0	0	1	1	10	144	0
2:45 PM	**0**	**17**	**68**	**22**	**0**	**0**	**50**	**0**	**0**	**10**	**0**	**0**	**0**	**1**	**3**	**17**	**188**	543
3:00 PM	**0**	**22**	**71**	**11**	**0**	**0**	**122**	**1**	**0**	**52**	**2**	**0**	**0**	**2**	**2**	**39**	**324**	773
3:15 PM	**0**	**20**	**76**	**19**	**0**	**0**	**105**	**1**	**0**	**32**	**2**	**0**	**0**	**0**	**2**	**23**	**280**	936
3:30 PM	**0**	**32**	**53**	**15**	**0**	**0**	**42**	**1**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**22**	**171**	**963**
3:45 PM	0	23	56	9	0	0	51	0	0	11	1	0	0	1	0	18	170	945
4:00 PM	0	28	73	8	0	0	48	1	0	5	0	0	0	1	3	18	185	806
4:15 PM	0	12	66	7	0	1	50	2	0	12	1	0	0	0	0	19	170	696
4:30 PM	0	13	59	18	0	0	43	0	0	8	0	0	0	1	0	23	165	690
4:45 PM	0	17	60	7	0	0	48	1	0	15	2	0	0	0	0	29	179	699
5:00 PM	0	33	69	12	0	0	55	0	0	10	0	0	0	0	0	22	201	715
5:15 PM	0	26	66	16	0	1	44	0	0	14	0	0	0	1	0	20	188	733
5:30 PM	0	28	94	16	0	0	65	1	0	10	2	0	0	1	1	23	241	809
5:45 PM	0	43	95	19	0	0	54	0	0	10	0	0	0	1	0	19	241	871
Count Total	0	346	1,055	210	0	3	869	9	0	215	11	0	0	10	14	316	3,058	0
Peak Hour All	**0**	**91**	**268**	**67**	**0**	**0**	**319**	**3**	**0**	**100**	**4**	**0**	**0**	**3**	**7**	**101**	**963**	**0**
Peak Hour HV	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**0**
Peak Hour HV%	**-**	**1%**	**0%**	**0%**	**-**	**-**	**0%**	**0%**	**-**	**0%**	**0%**	**-**	**-**	**0%**	**0%**	**1%**	**0%**	**0**

Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
2:00 PM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	0	2	*2*
2:15 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	1	*1*
2:30 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	0	*0*
2:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**4**	*6*
3:00 PM	**1**	**0**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**2**	**3**	*7*
3:15 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**1**	**2**	**0**	**0**	*3*
3:30 PM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	***2***
3:45 PM	1	1	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
4:00 PM	2	2	0	0	*4*	0	0	0	0	*0*	0	2	0	0	*2*
4:15 PM	1	2	0	0	*3*	0	0	0	0	*0*	0	2	0	3	*5*
4:30 PM	1	1	0	1	*3*	0	0	0	0	*0*	0	0	0	1	*1*
4:45 PM	1	0	0	3	*4*	0	0	0	0	*0*	0	0	0	1	*1*
5:00 PM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	0	1	*1*
5:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	1	0	*1*
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	2	0	0	0	*2*	0	0	0	0	*0*	0	0	1	1	*2*
Count Total	10	8	1	6	*25*	0	0	0	0	*0*	1	9	7	17	*34*
Peak Hour	**2**	**0**	**0**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**1**	**5**	**5**	**7**	***18***

Four-Hour Count Summaries - Heavy Vehicles

Interval Start	Positano Pkwy				Positano Pkwy				W Cantara Dr				Salerno Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
2:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	3
3:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	4
3:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	3
3:30 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**
3:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	5
4:00 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	7
4:15 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	10
4:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	3	12
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	4	14
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	11
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3
Count Total	0	1	9	0	0	0	8	0	0	0	1	0	0	1	0	5	25	0
Peak Hour	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**0**

Four-Hour Count Summaries - Bikes

Interval Start	Positano Pkwy			Positano Pkwy			W Cantara Dr			Salerno Dr			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

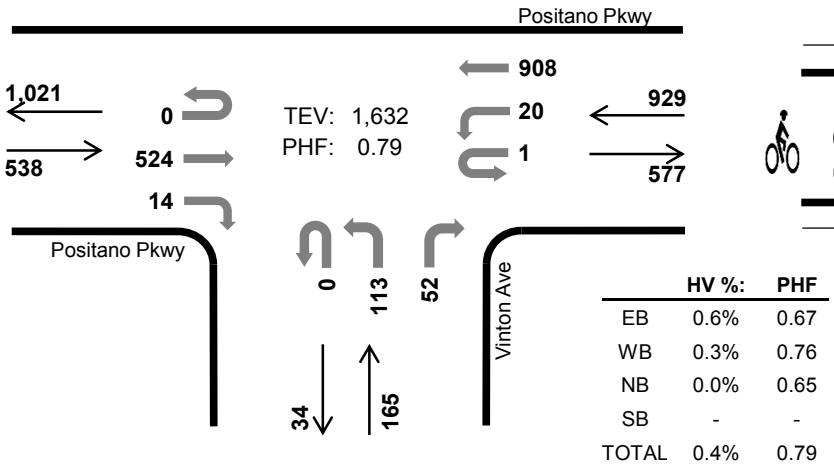
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Vinton Ave
Positano Pkwy

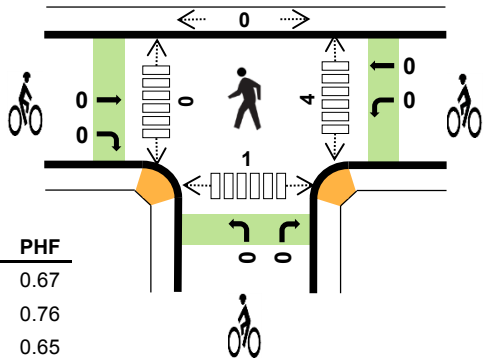
N

Peak Hour

Date: 05-03-2018
Count Period: 7:00 AM to 10:00 AM
Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	0.6%	0.67
WB	0.3%	0.76
NB	0.0%	0.65
SB	-	-
TOTAL	0.4%	0.79



Three-Hour Count Summaries

Interval Start		Positano Pkwy Eastbound UT	LT	TH	RT	Positano Pkwy Westbound UT	LT	TH	RT	Vinton Ave Northbound UT	LT	TH	RT	0 Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:45 AM		0	0	99	2	0	0	139	0	0	21	0	2	0	0	0	0	263	0
8:00 AM		0	0	200	1	1	3	221	0	0	34	0	29	0	0	0	0	489	0
8:15 AM		0	0	151	5	0	10	296	0	0	35	0	20	0	0	0	0	517	0
8:30 AM		0	0	74	6	0	7	252	0	0	23	0	1	0	0	0	0	363	1,632
Peak Hour	All	0	0	524	14	1	20	908	0	0	113	0	52	0	0	0	0	1,632	0
	HV	0	0	2	1	0	0	3	0	0	0	0	0	0	0	0	0	6	0
	HV%	-	-	0%	7%	0%	0%	0%	-	-	0%	-	0%	-	-	-	-	0%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:45 AM	2	2	0	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	0	1	0	0	*1*	0	0	0	0	*0*	3	0	0	1	*4*
8:15 AM	1	0	0	0	*1*	0	0	0	0	*0*	1	0	0	0	*1*
8:30 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	3	3	0	0	*6*	0	0	0	0	*0*	4	0	0	1	*5*

Three-Hour Count Summaries

Interval Start	Positano Pkwy				Positano Pkwy				Vinton Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	23	1	0	1	66	0	0	12	0	0	0	0	0	0	103	0
7:15 AM	0	0	24	1	0	1	109	0	0	24	0	1	0	0	0	0	160	0
7:30 AM	0	0	40	1	0	1	133	0	0	33	0	1	0	0	0	0	209	0
7:45 AM	**0**	**0**	**99**	**2**	**0**	**0**	**139**	**0**	**0**	**21**	**0**	**2**	**0**	**0**	**0**	**0**	**263**	735
8:00 AM	**0**	**0**	**200**	**1**	**1**	**3**	**221**	**0**	**0**	**34**	**0**	**29**	**0**	**0**	**0**	**0**	**489**	1,121
8:15 AM	**0**	**0**	**151**	**5**	**0**	**10**	**296**	**0**	**0**	**35**	**0**	**20**	**0**	**0**	**0**	**0**	**517**	1,478
8:30 AM	**0**	**0**	**74**	**6**	**0**	**7**	**252**	**0**	**0**	**23**	**0**	**1**	**0**	**0**	**0**	**0**	**363**	**1,632**
8:45 AM	0	0	43	3	0	0	146	0	0	30	0	4	0	0	0	0	226	1,595
9:00 AM	0	0	36	3	0	1	93	0	0	23	0	0	0	0	0	0	156	1,262
9:15 AM	0	0	44	3	0	2	89	0	0	21	0	1	0	0	0	0	160	905
9:30 AM	0	0	28	4	0	1	78	0	0	17	0	0	0	0	0	0	128	670
9:45 AM	0	0	36	0	0	0	65	0	0	17	0	1	0	0	0	0	119	563
Count Total	0	0	798	30	1	27	1,687	0	0	290	0	60	0	0	0	0	2,893	0
Peak Hour All	**0**	**0**	**524**	**14**	**1**	**20**	**908**	**0**	**0**	**113**	**0**	**52**	**0**	**0**	**0**	**0**	**1,632**	**0**
Peak Hour HV	**0**	**0**	**2**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**
Peak Hour HV%	**-**	**-**	**0%**	**7%**	**0%**	**0%**	**0%**	**-**	**-**	**0%**	**-**	**0%**	**-**	**-**	**-**	**-**	**0%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	2	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	1	0	0	0	*1*	0	0	0	0	*0*	1	0	0	0	*1*
7:45 AM	**2**	**2**	**0**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**0**	**1**	*4*
8:15 AM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
8:30 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:45 AM	1	1	0	0	*2*	0	0	0	0	*0*	0	0	0	3	*3*
9:00 AM	2	0	0	0	*2*	0	0	0	0	*0*	1	0	0	1	*2*
9:15 AM	2	1	0	0	*3*	0	0	0	0	*0*	1	0	0	0	*1*
9:30 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
9:45 AM	2	3	0	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	13	10	0	0	*23*	0	0	0	0	*0*	7	0	0	5	*12*
Peak Hr	**3**	**3**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**1**	***5***

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	Positano Pkwy				Positano Pkwy				Vinton Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	8
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	6
8:15 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	7
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**
8:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	4
9:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5
9:15 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	7
9:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	8
9:45 AM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5	11
Count Total	0	0	11	2	0	0	10	0	0	0	0	0	0	0	0	0	23	0
Peak Hour	**0**	**0**	**2**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**

Three-Hour Count Summaries - Bikes

Interval Start	Positano Pkwy			Positano Pkwy			Vinton Ave			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

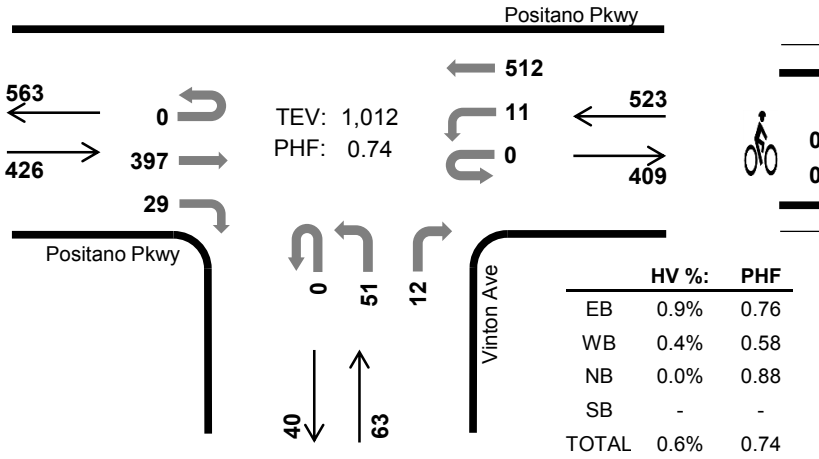
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Vinton Ave
Positano Pkwy

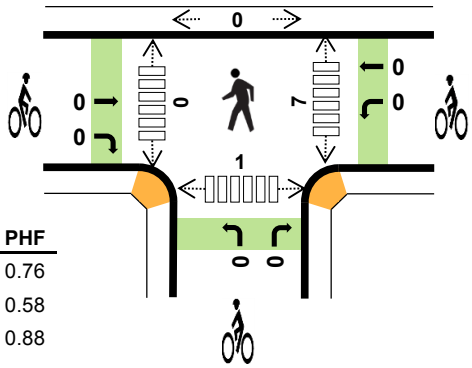
N

Peak Hour

Date: 05-03-2018
Count Period: 2:00 PM to 6:00 PM
Peak Hour: 3:00 PM to 4:00 PM



	HV %:	PHF
EB	0.9%	0.76
WB	0.4%	0.58
NB	0.0%	0.88
SB	-	-
TOTAL	0.6%	0.74



Four-Hour Count Summaries

Interval Start		Positano Pkwy Eastbound UT	LT	TH	RT	Positano Pkwy Westbound UT	LT	TH	RT	Vinton Ave Northbound UT	LT	TH	RT	0 Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
3:00 PM		0	0	98	2	0	6	220	0	0	12	0	6	0	0	0	0	344	0
3:15 PM		0	0	127	14	0	2	147	0	0	13	0	2	0	0	0	0	305	0
3:30 PM		0	0	79	10	0	1	63	0	0	11	0	2	0	0	0	0	166	0
3:45 PM		0	0	93	3	0	2	82	0	0	15	0	2	0	0	0	0	197	1,012
Peak Hour	All	0	0	397	29	0	11	512	0	0	51	0	12	0	0	0	0	1,012	0
	HV	0	0	3	1	0	0	2	0	0	0	0	0	0	0	0	0	6	0
	HV%	-	-	1%	3%	-	0%	0%	-	-	0%	-	0%	-	-	-	-	1%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
3:00 PM	1	1	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
3:15 PM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
3:30 PM	1	0	0	0	*1*	0	0	0	0	*0*	7	0	0	0	*7*
3:45 PM	1	1	0	0	*2*	0	0	0	0	*0*	0	0	0	1	*1*
Peak Hour	4	2	0	0	*6*	0	0	0	0	*0*	7	0	0	1	*8*

Four-Hour Count Summaries

Interval Start	Positano Pkwy				Positano Pkwy				Vinton Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	0	52	1	0	0	43	0	0	8	0	0	0	0	0	0	104	0
2:15 PM	0	0	70	4	0	0	43	0	0	10	0	3	0	0	0	0	130	0
2:30 PM	0	0	90	2	0	1	52	0	0	9	0	3	0	0	0	0	157	0
2:45 PM	0	0	96	5	0	1	79	0	0	3	0	11	0	0	0	0	195	586
3:00 PM	**0**	**0**	**98**	**2**	**0**	**6**	**220**	**0**	**0**	**12**	**0**	**6**	**0**	**0**	**0**	**0**	**344**	826
3:15 PM	**0**	**0**	**127**	**14**	**0**	**2**	**147**	**0**	**0**	**13**	**0**	**2**	**0**	**0**	**0**	**0**	**305**	1,001
3:30 PM	**0**	**0**	**79**	**10**	**0**	**1**	**63**	**0**	**0**	**11**	**0**	**2**	**0**	**0**	**0**	**0**	**166**	1,010
3:45 PM	**0**	**0**	**93**	**3**	**0**	**2**	**82**	**0**	**0**	**15**	**0**	**2**	**0**	**0**	**0**	**0**	**197**	**1,012**
4:00 PM	0	0	99	3	0	1	71	0	0	15	0	5	0	0	0	0	194	862
4:15 PM	0	0	87	12	0	2	78	0	0	10	0	1	0	0	0	0	190	747
4:30 PM	0	0	82	5	0	0	76	0	0	19	0	1	0	0	0	0	183	764
4:45 PM	1	0	97	5	0	2	90	0	0	12	0	0	0	0	0	0	207	774
5:00 PM	0	0	107	11	0	1	87	0	0	16	0	3	0	0	0	0	225	805
5:15 PM	0	0	111	8	0	1	77	0	0	7	0	3	0	0	0	0	207	822
5:30 PM	0	0	136	10	0	3	99	0	0	13	0	1	0	0	0	0	262	901
5:45 PM	0	0	152	18	0	2	78	0	0	24	0	0	0	0	0	0	274	968
Count Total	1	0	1,576	113	0	25	1,385	0	0	197	0	43	0	0	0	0	3,340	0
Peak Hour All	**0**	**0**	**397**	**29**	**0**	**11**	**512**	**0**	**0**	**51**	**0**	**12**	**0**	**0**	**0**	**0**	**1,012**	**0**
Peak Hour HV	**0**	**0**	**3**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**
Peak Hour HV%	**-**	**-**	**1%**	**3%**	**-**	**0%**	**0%**	**-**	**-**	**0%**	**-**	**0%**	**-**	**-**	**-**	**-**	**1%**	**0**

Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
2:00 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	0	0	1	*2*
2:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
2:30 PM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
2:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
3:00 PM	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
3:15 PM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
3:30 PM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**7**	**0**	**0**	**0**	*7*
3:45 PM	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***
4:00 PM	2	2	0	0	*4*	0	0	0	0	*0*	0	0	0	1	*1*
4:15 PM	4	2	1	0	*7*	0	0	0	0	*0*	1	0	0	2	*3*
4:30 PM	0	1	1	0	*2*	0	0	0	0	*0*	0	0	0	1	*1*
4:45 PM	1	4	0	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 PM	0	0	1	0	*1*	0	0	0	0	*0*	2	0	0	1	*3*
5:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	0	0	0	*1*
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	4	*4*
5:45 PM	2	1	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	13	13	3	0	*29*	0	0	0	0	*0*	12	0	0	11	*23*
Peak Hr	**4**	**2**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**7**	**0**	**0**	**1**	***8***

Four-Hour Count Summaries - Heavy Vehicles

Interval Start	Positano Pkwy				Positano Pkwy				Vinton Ave				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	3
3:15 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	4
3:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	4
3:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**6**
4:00 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	8
4:15 PM	0	0	2	2	0	0	2	0	0	1	0	0	0	0	0	0	7	14
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	15
4:45 PM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	5	18
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	15
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:45 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	4
Count Total	0	0	10	3	0	0	13	0	0	3	0	0	0	0	0	0	29	0
Peak Hour	**0**	**0**	**3**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**

Four-Hour Count Summaries - Bikes

Interval Start	Positano Pkwy			Positano Pkwy			Vinton Ave			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

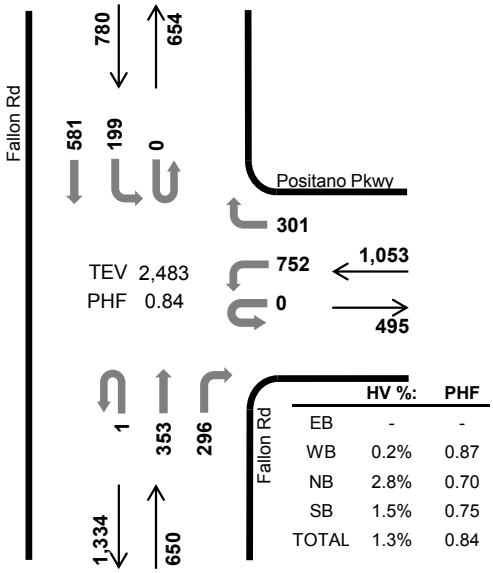
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Fallon Rd
Positano Pkwy

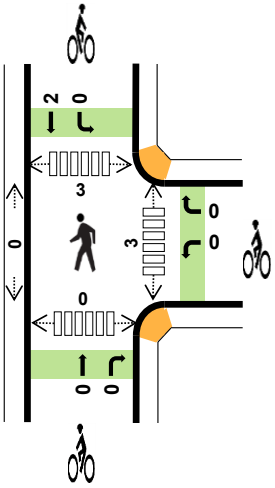
N

Peak Hour

Date: 05-08-2018
Count Period: 7:00 AM to 10:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	-	-
WB	0.2%	0.87
NB	2.8%	0.70
SB	1.5%	0.75
TOTAL	1.3%	0.84



Three-Hour Count Summaries

Interval Start		0				Positano Pkwy				Fallon Rd				Fallon Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
8:00 AM		0	0	0	0	0	135	0	94	1	0	101	130	0	65	141	0	667	0
8:15 AM		0	0	0	0	0	176	0	128	0	0	91	88	0	68	192	0	743	0
8:30 AM		0	0	0	0	0	239	0	47	0	0	84	47	0	52	130	0	599	0
8:45 AM		0	0	0	0	0	202	0	32	0	0	77	31	0	14	118	0	474	2,483
Peak Hour	All	0	0	0	0	0	752	0	301	1	0	353	296	0	199	581	0	2,483	0
	HV	0	0	0	0	0	1	0	1	1	0	14	3	0	1	11	0	32	0
	HV%	-	-	-	-	-	0%	-	0%	100%	-	4%	1%	-	1%	2%	-	1%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
8:00 AM	0	1	8	4	*13*	0	0	0	0	*0*	2	0	2	0	*4*
8:15 AM	0	0	5	4	*9*	0	0	0	1	*1*	1	0	0	0	*1*
8:30 AM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	1	3	3	*7*	0	0	0	1	*1*	0	0	1	0	*1*
Peak Hour	0	2	18	12	*32*	0	0	0	2	*2*	3	0	3	0	*6*

Three-Hour Count Summaries

Interval Start	0				Positano Pkwy				Fallon Rd				Fallon Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	79	0	10	0	0	65	26	0	4	57	0	241	0
7:15 AM	0	0	0	0	0	109	0	18	0	0	78	20	0	7	80	0	312	0
7:30 AM	0	0	0	0	0	137	0	30	0	0	75	30	0	15	135	0	422	0
7:45 AM	0	0	0	0	0	130	0	35	0	0	85	71	0	40	110	0	471	1,446
8:00 AM	**0**	**0**	**0**	**0**	**0**	**135**	**0**	**94**	**1**	**0**	**101**	**130**	**0**	**65**	**141**	**0**	**667**	1,872
8:15 AM	**0**	**0**	**0**	**0**	**0**	**176**	**0**	**128**	**0**	**0**	**91**	**88**	**0**	**68**	**192**	**0**	**743**	2,303
8:30 AM	**0**	**0**	**0**	**0**	**0**	**239**	**0**	**47**	**0**	**0**	**84**	**47**	**0**	**52**	**130**	**0**	**599**	2,480
8:45 AM	**0**	**0**	**0**	**0**	**0**	**202**	**0**	**32**	**0**	**0**	**77**	**31**	**0**	**14**	**118**	**0**	**474**	**2,483**
9:00 AM	0	0	0	0	0	125	0	14	1	0	69	39	0	6	109	0	363	2,179
9:15 AM	0	0	0	0	0	99	0	14	0	0	86	29	0	8	84	0	320	1,756
9:30 AM	0	0	0	0	0	65	0	14	0	0	69	26	0	7	89	0	270	1,427
9:45 AM	0	0	0	0	0	74	0	5	0	0	67	26	0	7	94	0	273	1,226
Count Total	0	0	0	0	0	1,570	0	441	2	0	947	563	0	293	1,339	0	5,155	0
Peak Hour All	**0**	**0**	**0**	**0**	**0**	**752**	**0**	**301**	**1**	**0**	**353**	**296**	**0**	**199**	**581**	**0**	**2,483**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**14**	**3**	**0**	**1**	**11**	**0**	**32**	**0**
Peak Hour HV%	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**0%**	**100%**	**-**	**4%**	**1%**	**-**	**1%**	**2%**	**-**	**1%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	4	4	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	0	0	5	1	*6*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	0	1	7	1	*9*	0	0	0	0	*0*	2	0	1	0	*3*
7:45 AM	0	2	0	4	*6*	0	0	0	0	*0*	2	0	0	0	*2*
8:00 AM	**0**	**1**	**8**	**4**	***13***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**2**	**0**	*4*
8:15 AM	**0**	**0**	**5**	**4**	***9***	**0**	**0**	**0**	**1**	***1***	**1**	**0**	**0**	**0**	*1*
8:30 AM	**0**	**0**	**2**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:45 AM	**0**	**1**	**3**	**3**	***7***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**1**	**0**	***1***
9:00 AM	0	1	3	2	*6*	0	0	0	1	*1*	0	0	0	0	*0*
9:15 AM	0	2	11	3	*16*	0	0	0	0	*0*	0	0	0	0	*0*
9:30 AM	0	1	3	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
9:45 AM	0	0	4	3	*7*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	13	55	26	*94*	0	0	0	3	*3*	7	0	4	0	*11*
Peak Hr	**0**	**2**	**18**	**12**	***32***	**0**	**0**	**0**	**2**	***2***	**3**	**0**	**3**	**0**	***6***

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	0				Positano Pkwy				Fallon Rd				Fallon Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	2	0	2	0	0	2	2	0	0	0	0	8	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	1	0	6	0
7:30 AM	0	0	0	0	0	1	0	0	0	0	7	0	0	0	1	0	9	0
7:45 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	1	3	0	6	29
8:00 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**7**	**0**	**0**	**0**	**4**	**0**	**13**	34
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**2**	**0**	**0**	**4**	**0**	**9**	37
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**3**	31
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**1**	**2**	**0**	**7**	**32**
9:00 AM	0	0	0	0	0	1	0	0	0	0	2	1	0	0	2	0	6	25
9:15 AM	0	0	0	0	0	2	0	0	0	0	9	2	0	0	3	0	16	32
9:30 AM	0	0	0	0	0	0	0	1	0	0	2	1	0	0	0	0	4	33
9:45 AM	0	0	0	0	0	0	0	0	0	0	3	1	0	0	3	0	7	33
Count Total	0	0	0	0	0	9	0	4	1	0	44	10	0	2	24	0	94	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**14**	**3**	**0**	**1**	**11**	**0**	**32**	**0**

Three-Hour Count Summaries - Bikes

Interval Start	0			Positano Pkwy			Fallon Rd			Fallon Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	1
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**2**
9:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	3
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	0	0	0	3	0	3	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**

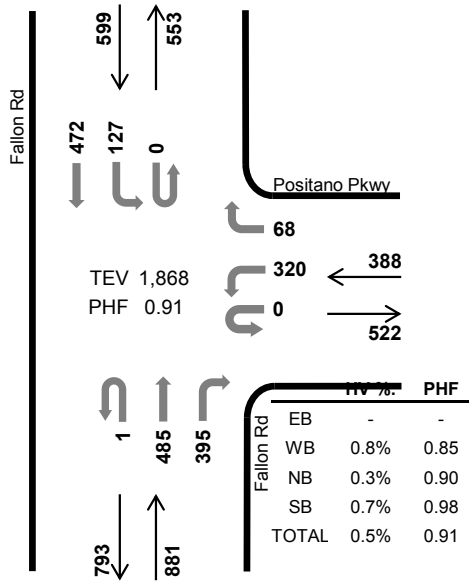
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Fallon Rd
Positano Pkwy

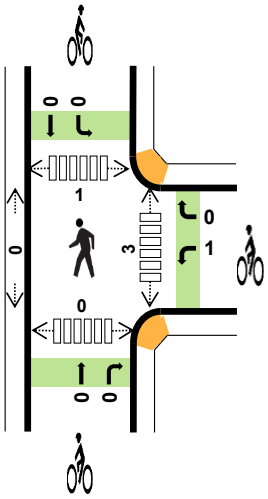
N

Peak Hour

Date: 05-08-2018
Count Period: 2:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	-	-
WB	0.8%	0.85
NB	0.3%	0.90
SB	0.7%	0.98
TOTAL	0.5%	0.91



Four-Hour Count Summaries

Interval Start		0 Eastbound UT	LT	TH	RT	Positano Pkwy Westbound UT	LT	TH	RT	Fallon Rd Northbound UT	LT	TH	RT	Fallon Rd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM		0	0	0	0	0	75	0	20	0	0	95	90	0	29	123	0	432	0
5:15 PM		0	0	0	0	0	76	0	14	1	0	134	104	0	34	118	0	481	0
5:30 PM		0	0	0	0	0	77	0	12	0	0	122	90	0	27	115	0	443	0
5:45 PM		0	0	0	0	0	92	0	22	0	0	134	111	0	37	116	0	512	1,868
Peak Hour	All	0	0	0	0	0	320	0	68	1	0	485	395	0	127	472	0	1,868	0
	HV	0	0	0	0	0	2	0	1	0	0	3	0	0	2	2	0	10	0
	HV%	-	-	-	-	-	1%	-	1%	0%	-	1%	0%	-	2%	0%	-	1%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
5:00 PM	0	2	0	1	*3*	0	0	0	0	*0*	1	0	0	0	*1*
5:15 PM	0	1	1	1	*3*	0	0	0	0	*0*	0	0	1	0	*1*
5:30 PM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	1	1	*2*	0	1	0	0	*1*	2	0	0	0	*2*
Peak Hour	0	3	3	4	*10*	0	1	0	0	*1*	3	0	1	0	*4*

Four-Hour Count Summaries

Interval Start	0				Positano Pkwy				Fallon Rd				Fallon Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	0	0	0	0	105	0	37	0	0	77	64	2	21	90	0	396	0
2:15 PM	0	0	0	0	0	81	0	27	0	0	98	42	0	13	95	0	356	0
2:30 PM	0	0	0	0	0	47	0	8	1	0	74	32	0	11	89	0	262	0
2:45 PM	0	0	0	0	0	57	0	16	0	0	79	47	0	10	91	0	300	1,314
3:00 PM	0	0	0	0	0	60	0	53	0	0	86	48	0	9	85	0	341	1,259
3:15 PM	0	0	0	0	0	62	0	55	0	0	76	62	0	80	134	0	469	1,372
3:30 PM	0	0	0	0	0	70	0	18	0	0	84	51	0	26	127	0	376	1,486
3:45 PM	0	0	0	0	0	59	0	16	2	0	77	74	0	27	109	0	364	1,550
4:00 PM	0	0	0	0	0	69	0	18	0	0	88	71	0	27	91	0	364	1,573
4:15 PM	0	0	0	0	0	64	0	16	0	0	91	73	0	14	105	0	363	1,467
4:30 PM	0	0	0	0	0	52	0	11	1	0	106	70	0	22	109	0	371	1,462
4:45 PM	0	0	0	0	0	67	0	17	1	0	130	77	0	21	110	0	423	1,521
5:00 PM	**0**	**0**	**0**	**0**	**0**	**75**	**0**	**20**	**0**	**0**	**95**	**90**	**0**	**29**	**123**	**0**	**432**	1,589
5:15 PM	**0**	**0**	**0**	**0**	**0**	**76**	**0**	**14**	**1**	**0**	**134**	**104**	**0**	**34**	**118**	**0**	**481**	1,707
5:30 PM	**0**	**0**	**0**	**0**	**0**	**77**	**0**	**12**	**0**	**0**	**122**	**90**	**0**	**27**	**115**	**0**	**443**	1,779
5:45 PM	**0**	**0**	**0**	**0**	**0**	**92**	**0**	**22**	**0**	**0**	**134**	**111**	**0**	**37**	**116**	**0**	**512**	**1,868**
Count Total	0	0	0	0	0	1,113	0	360	6	0	1,551	1,106	2	408	1,707	0	6,253	0
Peak Hour All	**0**	**0**	**0**	**0**	**0**	**320**	**0**	**68**	**1**	**0**	**485**	**395**	**0**	**127**	**472**	**0**	**1,868**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**2**	**2**	**0**	**10**	**0**
Peak Hour HV%	**-**	**-**	**-**	**-**	**-**	**1%**	**-**	**1%**	**0%**	**-**	**1%**	**0%**	**-**	**2%**	**0%**	**-**	**1%**	**0**

Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
2:00 PM	0	0	3	2	*5*	0	0	0	0	*0*	0	0	0	0	*0*
2:15 PM	0	0	2	2	*4*	0	0	0	0	*0*	0	0	0	0	*0*
2:30 PM	0	1	2	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
2:45 PM	0	0	1	3	*4*	0	0	0	0	*0*	0	0	0	0	*0*
3:00 PM	0	0	5	5	*10*	0	0	0	0	*0*	0	0	0	0	*0*
3:15 PM	0	1	0	4	*5*	0	0	0	0	*0*	1	0	0	0	*1*
3:30 PM	0	1	2	4	*7*	0	0	0	0	*0*	2	0	0	0	*2*
3:45 PM	0	0	0	4	*4*	0	0	0	0	*0*	0	0	1	0	*1*
4:00 PM	0	2	0	4	*6*	0	1	0	0	*1*	0	0	0	0	*0*
4:15 PM	0	3	0	1	*4*	0	0	0	0	*0*	0	0	1	0	*1*
4:30 PM	0	1	1	2	*4*	0	0	0	0	*0*	2	0	0	0	*2*
4:45 PM	0	1	2	1	*4*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 PM	**0**	**2**	**0**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***
5:15 PM	**0**	**1**	**1**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***
5:30 PM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:45 PM	**0**	**0**	**1**	**1**	***2***	**0**	**1**	**0**	**0**	***1***	**2**	**0**	**0**	**0**	***2***
Count Total	0	13	21	36	*70*	0	2	0	0	*2*	8	0	3	0	*11*
Peak Hr	**0**	**3**	**3**	**4**	***10***	**0**	**1**	**0**	**0**	***1***	**3**	**0**	**1**	**0**	***4***

Four-Hour Count Summaries - Heavy Vehicles

Interval Start	0				Positano Pkwy				Fallon Rd				Fallon Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	0	0	0	0	0	0	0	0	0	2	1	0	0	2	0	5	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	0
2:30 PM	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	3	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	16
3:00 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	1	4	0	10	21
3:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	5	22
3:30 PM	0	0	0	0	0	1	0	0	0	0	2	0	0	0	4	0	7	26
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	26
4:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	3	1	0	6	22
4:15 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	0	4	21
4:30 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	1	1	0	4	18
4:45 PM	0	0	0	0	0	1	0	0	0	0	2	0	0	1	0	0	4	18
5:00 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	15
5:15 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**3**	14
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	12
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**10**
Count Total	0	0	0	0	0	12	0	1	0	0	20	1	0	10	26	0	70	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**2**	**2**	**0**	**10**	**0**

Four-Hour Count Summaries - Bikes

Interval Start	0			Positano Pkwy			Fallon Rd			Fallon Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
Count Total	0	0	0	2	0	0	0	0	0	0	0	0	2	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Appendix B – Existing Conditions Level of Service Worksheets

Queues
1: Positano Parkway & W Cantara Drive

05/22/2018

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	18	347	300	8	94	733	650
v/c Ratio	0.19	0.87	0.93	0.01	0.81	0.77	0.84
Control Delay	49.8	39.5	76.8	19.6	92.1	24.9	37.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	39.5	76.8	19.6	92.1	24.9	37.3
Queue Length 50th (ft)	11	88	189	2	60	350	365
Queue Length 95th (ft)	25	95	197	9	#103	333	415
Internal Link Dist (ft)		964		1274		919	859
Turn Bay Length (ft)	80		100		220		
Base Capacity (vph)	97	452	322	641	116	957	778
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.77	0.93	0.01	0.81	0.77	0.84

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1	232	195	4	1	66	392	121	0	497	4
Future Volume (vph)	12	1	232	195	4	1	66	392	121	0	497	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	0.99			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.85		1.00	0.96		1.00	0.96			1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1770	1540		1770	1780		1770	1786			1860	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1770	1540		1770	1780		1770	1786			1860	
Peak-hour factor, PHF	0.67	0.67	0.67	0.65	0.65	0.65	0.70	0.70	0.70	0.77	0.77	0.77
Adj. Flow (vph)	18	1	346	300	6	2	94	560	173	0	645	5
RTOR Reduction (vph)	0	166	0	0	1	0	0	9	0	0	0	0
Lane Group Flow (vph)	18	181	0	300	7	0	94	724	0	0	650	0
Confl. Peds. (#/hr)			3			3			2			13
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.0	17.8		17.5	34.3		6.3	51.1			40.3	
Effective Green, g (s)	1.0	17.8		17.5	34.3		6.3	51.1			40.3	
Actuated g/C Ratio	0.01	0.18		0.18	0.34		0.06	0.51			0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	17	274		310	611		111	913			750	
v/s Ratio Prot	0.01	c0.12		c0.17	0.00		0.05	c0.41			c0.35	
v/s Ratio Perm												
v/c Ratio	1.06	0.66		0.97	0.01		0.85	0.79			0.87	
Uniform Delay, d1	49.5	38.2		40.9	21.6		46.3	20.0			27.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	238.2	5.9		41.9	0.0		41.6	7.0			12.8	
Delay (s)	287.7	44.1		82.8	21.6		87.9	27.1			40.2	
Level of Service	F	D		F	C		F	C			D	
Approach Delay (s)		56.1			81.3			34.0			40.2	
Approach LOS		E			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	46.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	99.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	174	80	803	26	1195
v/c Ratio	0.48	0.13	0.78	0.14	0.95
Control Delay	21.0	5.0	25.3	22.3	32.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	5.0	25.3	22.3	32.1
Queue Length 50th (ft)	42	5	~260	7	~380
Queue Length 95th (ft)	57	13	#305	21	#495
Internal Link Dist (ft)	355		673		919
Turn Bay Length (ft)		100		160	
Base Capacity (vph)	658	675	1033	182	1255
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.26	0.12	0.78	0.14	0.95

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	113	52	524	14	20	908
Future Volume (vph)	113	52	524	14	20	908
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1856		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1856		1770	1863
Peak-hour factor, PHF	0.65	0.65	0.67	0.67	0.76	0.76
Adj. Flow (vph)	174	80	782	21	26	1195
RTOR Reduction (vph)	0	33	1	0	0	0
Lane Group Flow (vph)	174	47	802	0	26	1195
Confl. Peds. (#/hr)		4				
Turn Type	Prot	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Actuated Green, G (s)	8.6	16.1	26.0		3.0	33.5
Effective Green, g (s)	8.6	16.1	26.0		3.0	33.5
Actuated g/C Ratio	0.17	0.32	0.51		0.06	0.66
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	297	498	944		103	1221
v/s Ratio Prot	c0.10	0.03	0.43		0.01	c0.64
v/s Ratio Perm						
v/c Ratio	0.59	0.09	0.85		0.25	0.98
Uniform Delay, d1	19.6	12.4	10.9		23.0	8.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.9	0.1	9.4		1.3	21.1
Delay (s)	22.5	12.4	20.3		24.3	29.6
Level of Service	C	B	C		C	C
Approach Delay (s)	19.4		20.3			29.5
Approach LOS	B		C			C

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	51.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	864	346	504	423	284	830
v/c Ratio	0.85	0.49	0.33	0.55	0.91	0.29
Control Delay	30.1	4.9	17.0	5.1	61.6	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.1	4.9	17.0	5.1	61.6	7.5
Queue Length 50th (ft)	148	0	51	0	102	53
Queue Length 95th (ft)	#225	45	56	15	#151	53
Internal Link Dist (ft)	673		1248			646
Turn Bay Length (ft)	360	420		180	280	
Base Capacity (vph)	1036	719	1536	773	311	2815
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.48	0.33	0.55	0.91	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	752	301	353	296	199	581
Future Volume (vph)	752	301	353	296	199	581
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1583	1770	5085
Peak-hour factor, PHF	0.87	0.87	0.70	0.70	0.70	0.70
Adj. Flow (vph)	864	346	504	423	284	830
RTOR Reduction (vph)	0	244	0	295	0	0
Lane Group Flow (vph)	864	102	504	128	284	830
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	17.6	17.6	18.0	18.0	10.5	33.0
Effective Green, g (s)	17.6	17.6	18.0	18.0	10.5	33.0
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.18	0.55
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1013	467	1535	478	311	2815
v/s Ratio Prot	c0.25		0.10		c0.16	c0.16
v/s Ratio Perm		0.06		0.08		
v/c Ratio	0.85	0.22	0.33	0.27	0.91	0.29
Uniform Delay, d1	19.8	15.8	16.1	15.8	24.1	7.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.1	0.2	0.6	1.4	29.6	0.3
Delay (s)	26.9	16.1	16.7	17.2	53.7	7.4
Level of Service	C	B	B	B	D	A
Approach Delay (s)	23.8		16.9			19.2
Approach LOS	C		B			B

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	59.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	50.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
1: Positano Parkway & W Cantara Drive

05/22/2018

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	3	96	54	2	159	472	1	264
v/c Ratio	0.02	0.39	0.25	0.01	1.03	0.40	0.01	0.28
Control Delay	29.7	12.2	29.1	20.0	116.8	10.7	29.0	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.7	12.2	29.1	20.0	116.8	10.7	29.0	13.1
Queue Length 50th (ft)	1	0	19	1	~70	87	0	64
Queue Length 95th (ft)	8	37	47	6	#170	220	5	121
Internal Link Dist (ft)		964		1274		919		859
Turn Bay Length (ft)	80		100		220		240	
Base Capacity (vph)	145	523	335	752	154	1183	145	933
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.18	0.16	0.00	1.03	0.40	0.01	0.28

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	84	44	2	0	130	324	63	1	218	1
Future Volume (vph)	3	1	84	44	2	0	130	324	63	1	218	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1540		1770	1863		1770	1808		1770	1862	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1540		1770	1863		1770	1808		1770	1862	
Peak-hour factor, PHF	0.88	0.88	0.88	0.82	0.82	0.82	0.82	0.82	0.82	0.83	0.83	0.83
Adj. Flow (vph)	3	1	95	54	2	0	159	395	77	1	263	1
RTOR Reduction (vph)	0	85	0	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	3	11	0	54	2	0	159	466	0	1	264	0
Confl. Peds. (#/hr)			5			7			5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.9	7.1		4.7	10.9		5.4	39.0		0.9	34.5	
Effective Green, g (s)	0.9	7.1		4.7	10.9		5.4	39.0		0.9	34.5	
Actuated g/C Ratio	0.01	0.10		0.07	0.16		0.08	0.56		0.01	0.49	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	22	156		119	291		137	1011		22	921	
v/s Ratio Prot	0.00	c0.01		c0.03	c0.00		c0.09	c0.26		0.00	0.14	
v/s Ratio Perm												
v/c Ratio	0.14	0.07		0.45	0.01		1.16	0.46		0.05	0.29	
Uniform Delay, d1	34.0	28.3		31.3	24.8		32.1	9.1		34.0	10.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.8	0.2		2.7	0.0		126.5	1.5		0.9	0.8	
Delay (s)	36.8	28.5		34.0	24.8		158.7	10.6		34.8	11.1	
Level of Service	D	C		C	C		F	B		C	B	
Approach Delay (s)		28.7			33.7			47.9			11.2	
Approach LOS		C			C			D			B	

Intersection Summary			
HCM 2000 Control Delay	36.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	69.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	86	10	683	8	401
v/c Ratio	0.31	0.02	0.50	0.04	0.27
Control Delay	20.9	5.4	10.7	20.4	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	5.4	10.7	20.4	4.0
Queue Length 50th (ft)	27	0	82	3	39
Queue Length 95th (ft)	36	4	#296	11	78
Internal Link Dist (ft)	355		673		919
Turn Bay Length (ft)		100		160	
Base Capacity (vph)	645	594	1377	179	1466
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.02	0.50	0.04	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	60	7	506	47	7	341
Future Volume (vph)	60	7	506	47	7	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1841		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1841		1770	1863
Peak-hour factor, PHF	0.70	0.70	0.81	0.81	0.85	0.85
Adj. Flow (vph)	86	10	625	58	8	401
RTOR Reduction (vph)	0	8	3	0	0	0
Lane Group Flow (vph)	86	2	680	0	8	401
Confl. Peds. (#/hr)		7				
Turn Type	Prot	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Actuated Green, G (s)	5.3	10.9	35.2		1.1	40.8
Effective Green, g (s)	5.3	10.9	35.2		1.1	40.8
Actuated g/C Ratio	0.10	0.20	0.64		0.02	0.74
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	170	313	1176		35	1379
v/s Ratio Prot	c0.05	0.00	c0.37		0.00	c0.22
v/s Ratio Perm						
v/c Ratio	0.51	0.01	0.58		0.23	0.29
Uniform Delay, d1	23.7	17.8	5.7		26.6	2.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.4	0.0	2.1		3.3	0.5
Delay (s)	26.0	17.8	7.8		29.9	2.9
Level of Service	C	B	A		C	A
Approach Delay (s)	25.2		7.8			3.4
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	55.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	43.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	376	80	539	439	130	482
v/c Ratio	0.53	0.20	0.25	0.49	0.45	0.15
Control Delay	21.4	6.4	12.5	4.1	25.6	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	6.4	12.5	4.1	25.6	4.7
Queue Length 50th (ft)	54	0	42	0	37	18
Queue Length 95th (ft)	81	23	75	54	83	37
Internal Link Dist (ft)	673		1248			1130
Turn Bay Length (ft)	360	420		180	280	
Base Capacity (vph)	1159	587	2114	898	348	3165
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.14	0.25	0.49	0.37	0.15

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	320	68	485	395	127	472
Future Volume (vph)	320	68	485	395	127	472
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1545	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1545	1770	5085
Peak-hour factor, PHF	0.85	0.85	0.90	0.90	0.98	0.98
Adj. Flow (vph)	376	80	539	439	130	482
RTOR Reduction (vph)	0	64	0	260	0	0
Lane Group Flow (vph)	376	16	539	179	130	482
Confl. Peds. (#/hr)				3		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	11.1	11.1	22.2	22.2	7.5	34.2
Effective Green, g (s)	11.1	11.1	22.2	22.2	7.5	34.2
Actuated g/C Ratio	0.20	0.20	0.41	0.41	0.14	0.63
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	701	323	2078	631	244	3202
v/s Ratio Prot	c0.11		0.11		c0.07	0.09
v/s Ratio Perm		0.01		c0.12		
v/c Ratio	0.54	0.05	0.26	0.28	0.53	0.15
Uniform Delay, d1	19.3	17.4	10.6	10.7	21.8	4.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.1	0.3	1.1	2.2	0.1
Delay (s)	20.1	17.4	10.9	11.9	24.0	4.2
Level of Service	C	B	B	B	C	A
Approach Delay (s)	19.6		11.3			8.4
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	54.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Queues
1: Positano Parkway & W Cantara Drive

05/22/2018

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	5	166	208	8	98	360	496
v/c Ratio	0.04	0.55	0.73	0.01	0.73	0.37	0.68
Control Delay	32.0	13.9	45.1	18.8	64.0	10.6	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	13.9	45.1	18.8	64.0	10.6	23.5
Queue Length 50th (ft)	2	4	83	2	41	74	164
Queue Length 95th (ft)	9	20	78	7	#123	150	186
Internal Link Dist (ft)		964		1274		919	859
Turn Bay Length (ft)	80		100		220		
Base Capacity (vph)	128	520	295	662	135	972	734
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.32	0.71	0.01	0.73	0.37	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	7	101	100	4	0	91	268	67	0	319	3
Future Volume (vph)	3	7	101	100	4	0	91	268	67	0	319	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.97		1.00	1.00		1.00	0.99			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.86		1.00	1.00		1.00	0.97			1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1770	1557		1770	1863		1770	1796			1860	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1770	1557		1770	1863		1770	1796			1860	
Peak-hour factor, PHF	0.65	0.65	0.65	0.48	0.48	0.48	0.93	0.93	0.93	0.65	0.65	0.65
Adj. Flow (vph)	5	11	155	208	8	0	98	288	72	0	491	5
RTOR Reduction (vph)	0	132	0	0	0	0	0	8	0	0	1	0
Lane Group Flow (vph)	5	34	0	208	8	0	98	352	0	0	495	0
Confl. Peds. (#/hr)			5			7			5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.9	10.9		11.1	21.1		5.3	37.1			27.3	
Effective Green, g (s)	0.9	10.9		11.1	21.1		5.3	37.1			27.3	
Actuated g/C Ratio	0.01	0.15		0.15	0.29		0.07	0.51			0.38	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	21	233		270	541		129	917			699	
v/s Ratio Prot	0.00	c0.02		c0.12	0.00		c0.06	0.20			c0.27	
v/s Ratio Perm												
v/c Ratio	0.24	0.15		0.77	0.01		0.76	0.38			0.71	
Uniform Delay, d1	35.5	26.8		29.5	18.3		33.0	10.8			19.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	5.8	0.3		12.7	0.0		22.3	1.2			6.0	
Delay (s)	41.3	27.1		42.2	18.4		55.3	12.0			25.3	
Level of Service	D	C		D	B		E	B			C	
Approach Delay (s)		27.5			41.3			21.3			25.3	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	72.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	58	14	636	14	674
v/c Ratio	0.23	0.03	0.45	0.08	0.45
Control Delay	20.6	5.6	9.3	21.1	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	5.6	9.3	21.1	4.9
Queue Length 50th (ft)	19	0	68	5	76
Queue Length 95th (ft)	35	7	155	13	115
Internal Link Dist (ft)	355		673		919
Turn Bay Length (ft)		100		160	
Base Capacity (vph)	642	585	1403	178	1492
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.02	0.45	0.08	0.45

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	51	12	397	29	11	512
Future Volume (vph)	51	12	397	29	11	512
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1846		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1846		1770	1863
Peak-hour factor, PHF	0.88	0.88	0.67	0.67	0.76	0.76
Adj. Flow (vph)	58	14	593	43	14	674
RTOR Reduction (vph)	0	11	2	0	0	0
Lane Group Flow (vph)	58	3	634	0	14	674
Confl. Peds. (#/hr)		7				
Turn Type	Prot	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Actuated Green, G (s)	4.7	10.3	36.1		1.1	41.7
Effective Green, g (s)	4.7	10.3	36.1		1.1	41.7
Actuated g/C Ratio	0.08	0.19	0.65		0.02	0.75
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	150	294	1202		35	1402
v/s Ratio Prot	c0.03	0.00	c0.34		0.01	c0.36
v/s Ratio Perm						
v/c Ratio	0.39	0.01	0.53		0.40	0.48
Uniform Delay, d1	24.0	18.4	5.1		26.8	2.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.7	0.0	1.7		7.3	1.2
Delay (s)	25.6	18.4	6.8		34.2	3.8
Level of Service	C	B	A		C	A
Approach Delay (s)	24.2		6.8			4.5
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	55.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	300	171	335	214	189	662
v/c Ratio	0.46	0.39	0.16	0.28	0.59	0.20
Control Delay	20.9	6.6	11.8	3.7	27.8	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	6.6	11.8	3.7	27.8	4.4
Queue Length 50th (ft)	42	0	25	0	52	24
Queue Length 95th (ft)	64	31	46	37	77	31
Internal Link Dist (ft)	673		1248			1130
Turn Bay Length (ft)	360	420		180	280	
Base Capacity (vph)	1189	660	2105	764	357	3237
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.26	0.16	0.28	0.53	0.20

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	249	142	325	208	125	437
Future Volume (vph)	249	142	325	208	125	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1545	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1545	1770	5085
Peak-hour factor, PHF	0.83	0.83	0.97	0.97	0.66	0.66
Adj. Flow (vph)	300	171	335	214	189	662
RTOR Reduction (vph)	0	139	0	127	0	0
Lane Group Flow (vph)	300	32	335	87	189	662
Confl. Peds. (#/hr)				3		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	9.9	9.9	21.5	21.5	8.0	34.0
Effective Green, g (s)	9.9	9.9	21.5	21.5	8.0	34.0
Actuated g/C Ratio	0.19	0.19	0.41	0.41	0.15	0.64
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	642	296	2066	627	267	3268
v/s Ratio Prot	c0.09		0.07		c0.11	c0.13
v/s Ratio Perm		0.02		0.06		
v/c Ratio	0.47	0.11	0.16	0.14	0.71	0.20
Uniform Delay, d1	19.2	17.8	10.0	9.9	21.3	3.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2	0.2	0.5	8.3	0.1
Delay (s)	19.7	18.0	10.1	10.3	29.6	4.0
Level of Service	B	B	B	B	C	A
Approach Delay (s)	19.1		10.2			9.7
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	52.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Appendix C – Existing Plus Project Conditions Level of Service Worksheets

HCM Signalized Intersection Capacity Analysis
1: Positano Parkway & W Cantara Drive

06/07/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	5	232	223	8	5	66	392	121	4	497	4
Future Volume (vph)	12	5	232	223	8	5	66	392	121	4	497	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.94		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1543		1770	1730		1770	1786		1770	1860	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1543		1770	1730		1770	1786		1770	1860	
Peak-hour factor, PHF	0.67	0.67	0.67	0.65	0.65	0.65	0.70	0.70	0.70	0.77	0.77	0.77
Adj. Flow (vph)	18	7	346	343	12	8	94	560	173	5	645	5
RTOR Reduction (vph)	0	163	0	0	5	0	0	9	0	0	0	0
Lane Group Flow (vph)	18	190	0	343	15	0	94	724	0	5	650	0
Confl. Peds. (#/hr)			3			3			2			13
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.1	18.3		21.5	37.7		6.9	55.2		1.0	49.3	
Effective Green, g (s)	2.1	18.3		21.5	37.7		6.9	55.2		1.0	49.3	
Actuated g/C Ratio	0.02	0.16		0.19	0.33		0.06	0.48		0.01	0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	32	247		333	572		107	864		15	804	
v/s Ratio Prot	0.01	c0.12		c0.19	0.01		c0.05	c0.41		0.00	0.35	
v/s Ratio Perm												
v/c Ratio	0.56	0.77		1.03	0.03		0.88	0.84		0.33	0.81	
Uniform Delay, d1	55.5	45.8		46.2	25.8		53.1	25.5		56.2	28.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	20.7	13.5		57.3	0.0		50.2	9.5		12.7	8.6	
Delay (s)	76.2	59.3		103.5	25.8		103.4	35.0		68.8	36.8	
Level of Service	E	E		F	C		F	D		E	D	
Approach Delay (s)		60.1			99.2			42.8			37.1	
Approach LOS		E			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	53.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
1: Positano Parkway & W Cantara Drive

06/07/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	5	232	223	8	5	66	392	149	4	497	4
Future Volume (vph)	12	5	232	223	8	5	66	392	149	4	497	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.94		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1543		1770	1730		1770	1773		1770	1860	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1543		1770	1730		1770	1773		1770	1860	
Peak-hour factor, PHF	0.67	0.67	0.67	0.65	0.65	0.65	0.70	0.70	0.70	0.77	0.77	0.77
Adj. Flow (vph)	18	7	346	343	12	8	94	560	213	5	645	5
RTOR Reduction (vph)	0	163	0	0	5	0	0	11	0	0	0	0
Lane Group Flow (vph)	18	190	0	343	15	0	94	762	0	5	650	0
Confl. Peds. (#/hr)			3			3			2			13
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.1	18.3		21.5	37.7		6.9	55.2		1.0	49.3	
Effective Green, g (s)	2.1	18.3		21.5	37.7		6.9	55.2		1.0	49.3	
Actuated g/C Ratio	0.02	0.16		0.19	0.33		0.06	0.48		0.01	0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	32	247		333	572		107	858		15	804	
v/s Ratio Prot	0.01	c0.12		c0.19	0.01		c0.05	c0.43		0.00	0.35	
v/s Ratio Perm												
v/c Ratio	0.56	0.77		1.03	0.03		0.88	0.89		0.33	0.81	
Uniform Delay, d1	55.5	45.8		46.2	25.8		53.1	26.6		56.2	28.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	20.7	13.5		57.3	0.0		50.2	13.2		12.7	8.6	
Delay (s)	76.2	59.3		103.5	25.8		103.4	39.8		68.8	36.8	
Level of Service	E	E		F	C		F	D		E	D	
Approach Delay (s)		60.1			99.2			46.6			37.1	
Approach LOS		E			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	54.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	113	56	548	14	24	932
Future Volume (vph)	113	56	548	14	24	932
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1856		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1856		1770	1863
Peak-hour factor, PHF	0.65	0.65	0.67	0.67	0.76	0.76
Adj. Flow (vph)	174	86	818	21	32	1226
RTOR Reduction (vph)	0	28	1	0	0	0
Lane Group Flow (vph)	174	58	838	0	32	1226
Confl. Peds. (#/hr)		4				
Turn Type	Prot	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Actuated Green, G (s)	8.6	16.1	25.9		3.0	33.4
Effective Green, g (s)	8.6	16.1	25.9		3.0	33.4
Actuated g/C Ratio	0.17	0.32	0.51		0.06	0.65
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	298	499	942		104	1220
v/s Ratio Prot	c0.10	0.04	0.45		0.02	c0.66
v/s Ratio Perm						
v/c Ratio	0.58	0.12	0.89		0.31	1.00
Uniform Delay, d1	19.5	12.4	11.3		23.0	8.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.9	0.1	12.3		1.7	27.0
Delay (s)	22.5	12.5	23.6		24.7	35.8
Level of Service	C	B	C		C	D
Approach Delay (s)	19.2		23.6			35.5
Approach LOS	B		C			D

Intersection Summary			
HCM 2000 Control Delay	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	51.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	766	311	353	310	209	581
Future Volume (vph)	766	311	353	310	209	581
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1583	1770	5085
Peak-hour factor, PHF	0.87	0.87	0.70	0.70	0.70	0.70
Adj. Flow (vph)	880	357	504	443	299	830
RTOR Reduction (vph)	0	251	0	309	0	0
Lane Group Flow (vph)	880	106	504	134	299	830
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	17.7	17.7	18.0	18.0	10.5	33.0
Effective Green, g (s)	17.7	17.7	18.0	18.0	10.5	33.0
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.18	0.55
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1017	469	1533	477	311	2810
v/s Ratio Prot	c0.26		0.10		c0.17	c0.16
v/s Ratio Perm		0.07		0.08		
v/c Ratio	0.87	0.23	0.33	0.28	0.96	0.30
Uniform Delay, d1	19.9	15.8	16.2	15.9	24.4	7.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.8	0.2	0.6	1.5	40.5	0.3
Delay (s)	27.7	16.1	16.7	17.4	64.9	7.4
Level of Service	C	B	B	B	E	A
Approach Delay (s)	24.3		17.0			22.6
Approach LOS	C		B			C

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	59.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	122	36	4	200	36	4
Future Volume (Veh/h)	122	36	4	200	36	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	133	39	4	217	39	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	284					
pX, platoon unblocked						
vC, conflicting volume			172		378	152
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			172		378	152
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		94	100
cM capacity (veh/h)			1405		622	894

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	172	221	43
Volume Left	0	4	39
Volume Right	39	0	4
cSH	1700	1405	640
Volume to Capacity	0.10	0.00	0.07
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.2	11.0
Lane LOS		A	B
Approach Delay (s)	0.0	0.2	11.0
Approach LOS			B

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	23.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
1: Positano Parkway & W Cantara Drive

06/07/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	10	101	122	7	3	91	268	67	3	319	3
Future Volume (vph)	3	10	101	122	7	3	91	268	67	3	319	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.96		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1563		1770	1765		1770	1796		1770	1860	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1563		1770	1765		1770	1796		1770	1860	
Peak-hour factor, PHF	0.65	0.65	0.65	0.48	0.48	0.48	0.93	0.93	0.93	0.65	0.65	0.65
Adj. Flow (vph)	5	15	155	254	15	6	98	288	72	5	491	5
RTOR Reduction (vph)	0	133	0	0	4	0	0	9	0	0	1	0
Lane Group Flow (vph)	5	37	0	254	17	0	98	351	0	5	495	0
Confl. Peds. (#/hr)			5			7			5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.9	11.0		11.5	21.6		5.3	35.3		0.9	30.9	
Effective Green, g (s)	0.9	11.0		11.5	21.6		5.3	35.3		0.9	30.9	
Actuated g/C Ratio	0.01	0.14		0.15	0.28		0.07	0.46		0.01	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	20	224		265	497		122	826		20	749	
v/s Ratio Prot	0.00	c0.02		c0.14	0.01		c0.06	c0.20		0.00	c0.27	
v/s Ratio Perm												
v/c Ratio	0.25	0.17		0.96	0.03		0.80	0.42		0.25	0.66	
Uniform Delay, d1	37.6	28.8		32.4	20.0		35.2	13.9		37.6	18.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.5	0.4		43.4	0.0		30.5	1.6		6.5	4.6	
Delay (s)	44.0	29.2		75.8	20.0		65.7	15.5		44.0	23.2	
Level of Service	D	C		E	C		E	B		D	C	
Approach Delay (s)		29.6			71.5			26.2			23.4	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	34.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	76.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
1: Positano Parkway & W Cantara Drive

06/07/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	10	101	122	7	3	91	268	89	3	319	3
Future Volume (vph)	3	10	101	122	7	3	91	268	89	3	319	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.96		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1563		1770	1765		1770	1779		1770	1860	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1563		1770	1765		1770	1779		1770	1860	
Peak-hour factor, PHF	0.65	0.65	0.65	0.48	0.48	0.48	0.93	0.93	0.93	0.65	0.65	0.65
Adj. Flow (vph)	5	15	155	254	15	6	98	288	96	5	491	5
RTOR Reduction (vph)	0	133	0	0	4	0	0	12	0	0	1	0
Lane Group Flow (vph)	5	37	0	254	17	0	98	372	0	5	495	0
Confl. Peds. (#/hr)			5			7			5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.9	11.0		11.5	21.6		5.3	35.3		0.9	30.9	
Effective Green, g (s)	0.9	11.0		11.5	21.6		5.3	35.3		0.9	30.9	
Actuated g/C Ratio	0.01	0.14		0.15	0.28		0.07	0.46		0.01	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	20	224		265	497		122	818		20	749	
v/s Ratio Prot	0.00	c0.02		c0.14	0.01		c0.06	c0.21		0.00	c0.27	
v/s Ratio Perm												
v/c Ratio	0.25	0.17		0.96	0.03		0.80	0.45		0.25	0.66	
Uniform Delay, d1	37.6	28.8		32.4	20.0		35.2	14.1		37.6	18.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.5	0.4		43.4	0.0		30.5	1.8		6.5	4.6	
Delay (s)	44.0	29.2		75.8	20.0		65.7	15.9		44.0	23.2	
Level of Service	D	C		E	C		E	B		D	C	
Approach Delay (s)		29.6			71.5			26.1			23.4	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	34.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	76.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	51	15	416	29	14	531
Future Volume (vph)	51	15	416	29	14	531
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1846		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1846		1770	1863
Peak-hour factor, PHF	0.88	0.88	0.67	0.67	0.76	0.76
Adj. Flow (vph)	58	17	621	43	18	699
RTOR Reduction (vph)	0	13	3	0	0	0
Lane Group Flow (vph)	58	4	661	0	18	699
Confl. Peds. (#/hr)		7				
Turn Type	Prot	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Actuated Green, G (s)	4.8	11.5	32.8		2.2	39.5
Effective Green, g (s)	4.8	11.5	32.8		2.2	39.5
Actuated g/C Ratio	0.09	0.22	0.62		0.04	0.74
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	159	341	1136		73	1380
v/s Ratio Prot	c0.03	0.00	c0.36		0.01	c0.38
v/s Ratio Perm						
v/c Ratio	0.36	0.01	0.58		0.25	0.51
Uniform Delay, d1	22.8	16.4	6.1		24.7	2.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.4	0.0	2.2		1.8	1.3
Delay (s)	24.2	16.4	8.3		26.5	4.2
Level of Service	C	B	A		C	A
Approach Delay (s)	22.5		8.3			4.8
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	53.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	260	150	325	219	133	437
Future Volume (vph)	260	150	325	219	133	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1545	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1545	1770	5085
Peak-hour factor, PHF	0.83	0.83	0.97	0.97	0.66	0.66
Adj. Flow (vph)	313	181	335	226	202	662
RTOR Reduction (vph)	0	146	0	144	0	0
Lane Group Flow (vph)	313	35	335	82	202	662
Confl. Peds. (#/hr)				3		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	10.1	10.1	18.9	18.9	9.7	33.1
Effective Green, g (s)	10.1	10.1	18.9	18.9	9.7	33.1
Actuated g/C Ratio	0.19	0.19	0.36	0.36	0.19	0.63
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	664	306	1841	559	328	3224
v/s Ratio Prot	c0.09		0.07		c0.11	c0.13
v/s Ratio Perm		0.02		0.05		
v/c Ratio	0.47	0.11	0.18	0.15	0.62	0.21
Uniform Delay, d1	18.7	17.4	11.4	11.2	19.5	4.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2	0.2	0.6	3.4	0.1
Delay (s)	19.2	17.5	11.6	11.8	23.0	4.2
Level of Service	B	B	B	B	C	A
Approach Delay (s)	18.6		11.7			8.6
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	74	28	3	104	28	3
Future Volume (Veh/h)	74	28	3	104	28	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	80	30	3	113	30	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	356					
pX, platoon unblocked						
vC, conflicting volume			110		214	95
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			110		214	95
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	100
cM capacity (veh/h)			1480		773	962

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	110	116	33
Volume Left	0	3	30
Volume Right	30	0	3
cSH	1700	1480	787
Volume to Capacity	0.06	0.00	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.0	0.2	9.8
Lane LOS		A	A
Approach Delay (s)	0.0	0.2	9.8
Approach LOS			A

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
1: Positano Parkway & W Cantara Drive

06/07/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	9	84	100	10	8	130	324	63	9	218	1
Future Volume (vph)	3	9	84	100	10	8	130	324	63	9	218	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.93		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1566		1770	1709		1770	1808		1770	1862	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1566		1770	1709		1770	1808		1770	1862	
Peak-hour factor, PHF	0.88	0.88	0.88	0.82	0.82	0.82	0.82	0.82	0.82	0.83	0.83	0.83
Adj. Flow (vph)	3	10	95	122	12	10	159	395	77	11	263	1
RTOR Reduction (vph)	0	84	0	0	8	0	0	6	0	0	0	0
Lane Group Flow (vph)	3	21	0	122	14	0	159	466	0	11	264	0
Confl. Peds. (#/hr)			5			7			5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.9	8.2		7.8	15.1		5.4	38.5		0.9	34.0	
Effective Green, g (s)	0.9	8.2		7.8	15.1		5.4	38.5		0.9	34.0	
Actuated g/C Ratio	0.01	0.11		0.11	0.21		0.07	0.52		0.01	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	21	174		188	351		130	948		21	862	
v/s Ratio Prot	0.00	c0.01		c0.07	0.01		c0.09	c0.26		0.01	0.14	
v/s Ratio Perm												
v/c Ratio	0.14	0.12		0.65	0.04		1.22	0.49		0.52	0.31	
Uniform Delay, d1	35.9	29.3		31.5	23.3		34.0	11.2		36.0	12.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.1	0.3		7.5	0.0		150.9	1.8		21.6	0.9	
Delay (s)	39.0	29.7		39.0	23.4		184.9	13.0		57.6	13.2	
Level of Service	D	C		D	C		F	B		E	B	
Approach Delay (s)		29.9			36.6			56.3			15.0	
Approach LOS		C			D			E			B	

Intersection Summary			
HCM 2000 Control Delay	41.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
1: Positano Parkway & W Cantara Drive

06/07/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	9	84	100	10	8	130	324	119	9	218	1
Future Volume (vph)	3	9	84	100	10	8	130	324	119	9	218	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.93		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1566		1770	1709		1770	1773		1770	1862	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1566		1770	1709		1770	1773		1770	1862	
Peak-hour factor, PHF	0.88	0.88	0.88	0.82	0.82	0.82	0.82	0.82	0.82	0.83	0.83	0.83
Adj. Flow (vph)	3	10	95	122	12	10	159	395	145	11	263	1
RTOR Reduction (vph)	0	84	0	0	8	0	0	12	0	0	0	0
Lane Group Flow (vph)	3	21	0	122	14	0	159	528	0	11	264	0
Confl. Peds. (#/hr)			5			7			5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.9	8.2		7.8	15.1		5.4	38.5		0.9	34.0	
Effective Green, g (s)	0.9	8.2		7.8	15.1		5.4	38.5		0.9	34.0	
Actuated g/C Ratio	0.01	0.11		0.11	0.21		0.07	0.52		0.01	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	21	174		188	351		130	929		21	862	
v/s Ratio Prot	0.00	c0.01		c0.07	0.01		c0.09	c0.30		0.01	0.14	
v/s Ratio Perm												
v/c Ratio	0.14	0.12		0.65	0.04		1.22	0.57		0.52	0.31	
Uniform Delay, d1	35.9	29.3		31.5	23.3		34.0	11.8		36.0	12.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.1	0.3		7.5	0.0		150.9	2.5		21.6	0.9	
Delay (s)	39.0	29.7		39.0	23.4		184.9	14.3		57.6	13.2	
Level of Service	D	C		D	C		F	B		E	B	
Approach Delay (s)		29.9			36.6			53.1			15.0	
Approach LOS		C			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	60	15	554	47	15	389
Future Volume (vph)	60	15	554	47	15	389
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1843		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1843		1770	1863
Peak-hour factor, PHF	0.70	0.70	0.81	0.81	0.85	0.85
Adj. Flow (vph)	86	21	684	58	18	458
RTOR Reduction (vph)	0	16	3	0	0	0
Lane Group Flow (vph)	86	5	739	0	18	458
Confl. Peds. (#/hr)		7				
Turn Type	Prot	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Actuated Green, G (s)	5.3	11.9	31.7		2.1	38.3
Effective Green, g (s)	5.3	11.9	31.7		2.1	38.3
Actuated g/C Ratio	0.10	0.23	0.60		0.04	0.73
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	178	358	1110		70	1356
v/s Ratio Prot	c0.05	0.00	c0.40		0.01	c0.25
v/s Ratio Perm						
v/c Ratio	0.48	0.01	0.67		0.26	0.34
Uniform Delay, d1	22.4	15.8	6.9		24.5	2.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.1	0.0	3.2		1.9	0.7
Delay (s)	24.4	15.8	10.1		26.4	3.3
Level of Service	C	B	B		C	A
Approach Delay (s)	22.7		10.1			4.1
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	52.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	348	88	485	423	147	472
Future Volume (vph)	348	88	485	423	147	472
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1545	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1545	1770	5085
Peak-hour factor, PHF	0.85	0.85	0.90	0.90	0.98	0.98
Adj. Flow (vph)	409	104	539	470	150	482
RTOR Reduction (vph)	0	82	0	282	0	0
Lane Group Flow (vph)	409	22	539	188	150	482
Confl. Peds. (#/hr)				3		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	11.7	11.7	21.9	21.9	7.6	34.0
Effective Green, g (s)	11.7	11.7	21.9	21.9	7.6	34.0
Actuated g/C Ratio	0.21	0.21	0.40	0.40	0.14	0.62
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	734	338	2035	618	245	3160
v/s Ratio Prot	c0.12		0.11		c0.08	0.09
v/s Ratio Perm		0.01		c0.12		
v/c Ratio	0.56	0.07	0.26	0.30	0.61	0.15
Uniform Delay, d1	19.2	17.1	11.0	11.2	22.2	4.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.1	0.3	1.3	4.5	0.1
Delay (s)	20.1	17.2	11.3	12.5	26.6	4.4
Level of Service	C	B	B	B	C	A
Approach Delay (s)	19.5		11.9			9.7
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	54.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	65	72	8	46	72	8
Future Volume (Veh/h)	65	72	8	46	72	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	71	78	9	50	78	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	377					
pX, platoon unblocked						
vC, conflicting volume			149		178	110
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			149		178	110
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		90	99
cM capacity (veh/h)			1432		807	943

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	149	59	87
Volume Left	0	9	78
Volume Right	78	0	9
cSH	1700	1432	819
Volume to Capacity	0.09	0.01	0.11
Queue Length 95th (ft)	0	0	9
Control Delay (s)	0.0	1.2	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	1.2	9.9
Approach LOS			A

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	20.4%	ICU Level of Service	A
Analysis Period (min)	15		

Queues
1: Positano Parkway & W Cantara Drive

06/08/2018

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	353	343	20	94	733	5	650
v/c Ratio	0.20	0.91	0.97	0.03	0.83	0.79	0.06	0.82
Control Delay	55.8	48.4	85.5	18.9	99.5	30.2	52.0	38.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	48.4	85.5	18.9	99.5	30.2	52.0	38.5
Queue Length 50th (ft)	12	113	244	5	67	395	4	405
Queue Length 95th (ft)	27	114	238	16	#110	431	14	440
Internal Link Dist (ft)		964		204		299		859
Turn Bay Length (ft)	80		100		220		240	
Base Capacity (vph)	88	419	353	611	113	924	82	788
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.84	0.97	0.03	0.83	0.79	0.06	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
1: Positano Parkway & W Cantara Drive

06/08/2018

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	353	343	20	94	773	5	650
v/c Ratio	0.20	0.91	0.97	0.03	0.83	0.84	0.06	0.82
Control Delay	55.8	48.4	85.5	18.9	99.5	33.2	52.0	38.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	48.4	85.5	18.9	99.5	33.2	52.0	38.5
Queue Length 50th (ft)	12	113	244	5	67	433	4	405
Queue Length 95th (ft)	27	114	238	16	#110	465	14	440
Internal Link Dist (ft)		964		204		919		859
Turn Bay Length (ft)	80		100		220		240	
Base Capacity (vph)	88	419	353	611	113	920	82	788
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.84	0.97	0.03	0.83	0.84	0.06	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	174	86	839	32	1226
v/c Ratio	0.48	0.14	0.81	0.17	0.98
Control Delay	21.0	5.7	27.4	22.8	37.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	5.7	27.4	22.8	37.1
Queue Length 50th (ft)	42	7	~283	8	~398
Queue Length 95th (ft)	57	16	#325	24	#514
Internal Link Dist (ft)	355		659		535
Turn Bay Length (ft)		100		160	
Base Capacity (vph)	660	673	1033	183	1254
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.26	0.13	0.81	0.17	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	880	357	504	443	299	830
v/c Ratio	0.87	0.50	0.33	0.56	0.96	0.30
Control Delay	31.1	4.9	17.0	5.2	71.7	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.1	4.9	17.0	5.2	71.7	7.5
Queue Length 50th (ft)	152	0	51	0	109	53
Queue Length 95th (ft)	#232	46	56	14	#162	53
Internal Link Dist (ft)	659		1248			646
Turn Bay Length (ft)	360	420		180	280	
Base Capacity (vph)	1035	726	1533	787	311	2811
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.49	0.33	0.56	0.96	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
1: Positano Parkway & W Cantara Drive

06/08/2018

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	5	170	254	21	98	360	5	496
v/c Ratio	0.04	0.56	0.87	0.04	0.73	0.39	0.04	0.68
Control Delay	32.0	14.4	59.6	15.7	64.6	13.1	32.0	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	14.4	59.6	15.7	64.6	13.1	32.0	23.8
Queue Length 50th (ft)	2	6	104	4	41	74	2	164
Queue Length 95th (ft)	9	21	93	11	#124	197	9	187
Internal Link Dist (ft)		964		276		360		859
Turn Bay Length (ft)	80		100		220		240	
Base Capacity (vph)	127	520	293	627	135	919	127	729
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.33	0.87	0.03	0.73	0.39	0.04	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
1: Positano Parkway & W Cantara Drive

06/08/2018

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	5	170	254	21	98	384	5	496
v/c Ratio	0.04	0.56	0.87	0.04	0.73	0.42	0.04	0.68
Control Delay	32.0	14.4	59.6	15.7	64.6	13.3	32.0	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	14.4	59.6	15.7	64.6	13.3	32.0	23.8
Queue Length 50th (ft)	2	6	104	4	41	79	2	164
Queue Length 95th (ft)	9	21	93	11	#124	211	9	187
Internal Link Dist (ft)		964		276		919		859
Turn Bay Length (ft)	80		100		220		240	
Base Capacity (vph)	127	520	293	627	135	913	127	729
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.33	0.87	0.03	0.73	0.42	0.04	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	58	17	664	18	699
v/c Ratio	0.22	0.04	0.51	0.10	0.47
Control Delay	19.7	5.0	12.2	20.6	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	5.0	12.2	20.6	5.2
Queue Length 50th (ft)	19	0	73	6	80
Queue Length 95th (ft)	35	8	164	15	122
Internal Link Dist (ft)	355		663		919
Turn Bay Length (ft)		100		160	
Base Capacity (vph)	657	601	1310	182	1477
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.03	0.51	0.10	0.47

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	313	181	335	226	202	662
v/c Ratio	0.47	0.40	0.18	0.32	0.62	0.21
Control Delay	21.0	6.5	12.5	3.9	29.3	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	6.5	12.5	3.9	29.3	4.5
Queue Length 50th (ft)	44	0	25	0	56	24
Queue Length 95th (ft)	67	32	46	39	82	32
Internal Link Dist (ft)	663		1248			1125
Turn Bay Length (ft)	360	420		180	280	
Base Capacity (vph)	1186	665	1841	703	356	3221
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.27	0.18	0.32	0.57	0.21

Intersection Summary

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	58	17	664	18	699
v/c Ratio	0.22	0.04	0.51	0.10	0.47
Control Delay	19.7	5.0	12.2	20.6	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	5.0	12.2	20.6	5.2
Queue Length 50th (ft)	19	0	73	6	80
Queue Length 95th (ft)	35	8	164	15	122
Internal Link Dist (ft)	355		663		475
Turn Bay Length (ft)		100		160	
Base Capacity (vph)	657	601	1310	182	1477
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.03	0.51	0.10	0.47

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	313	181	335	226	202	662
v/c Ratio	0.47	0.40	0.18	0.32	0.62	0.21
Control Delay	21.0	6.5	12.5	3.9	29.3	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	6.5	12.5	3.9	29.3	4.5
Queue Length 50th (ft)	44	0	25	0	56	24
Queue Length 95th (ft)	67	32	46	39	82	32
Internal Link Dist (ft)	663		1248			1125
Turn Bay Length (ft)	360	420		180	280	
Base Capacity (vph)	1186	665	1841	703	356	3221
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.27	0.18	0.32	0.57	0.21

Intersection Summary

Queues
1: Positano Parkway & W Cantara Drive

06/08/2018

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	3	105	122	22	159	472	11	264
v/c Ratio	0.02	0.42	0.48	0.05	1.10	0.43	0.08	0.30
Control Delay	31.0	14.2	33.5	14.4	138.1	12.7	32.0	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	14.2	33.5	14.4	138.1	12.7	32.0	15.3
Queue Length 50th (ft)	1	4	46	3	~76	100	4	71
Queue Length 95th (ft)	9	42	88	19	#176	232	18	127
Internal Link Dist (ft)		964		297		386		859
Turn Bay Length (ft)	80		100		220		240	
Base Capacity (vph)	137	506	316	657	145	1108	137	867
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.21	0.39	0.03	1.10	0.43	0.08	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1: Positano Parkway & W Cantara Drive

06/08/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	9	84	100	10	8	130	324	119	9	218	1
Future Volume (vph)	3	9	84	100	10	8	130	324	119	9	218	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.93		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1566		1770	1709		1770	1773		1770	1862	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1566		1770	1709		1770	1773		1770	1862	
Peak-hour factor, PHF	0.88	0.88	0.88	0.82	0.82	0.82	0.82	0.82	0.82	0.83	0.83	0.83
Adj. Flow (vph)	3	10	95	122	12	10	159	395	145	11	263	1
RTOR Reduction (vph)	0	84	0	0	8	0	0	12	0	0	0	0
Lane Group Flow (vph)	3	21	0	122	14	0	159	528	0	11	264	0
Confl. Peds. (#/hr)			5			7			5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.9	8.2		7.8	15.1		5.4	38.5		0.9	34.0	
Effective Green, g (s)	0.9	8.2		7.8	15.1		5.4	38.5		0.9	34.0	
Actuated g/C Ratio	0.01	0.11		0.11	0.21		0.07	0.52		0.01	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	21	174		188	351		130	929		21	862	
v/s Ratio Prot	0.00	c0.01		c0.07	0.01		c0.09	c0.30		0.01	0.14	
v/s Ratio Perm												
v/c Ratio	0.14	0.12		0.65	0.04		1.22	0.57		0.52	0.31	
Uniform Delay, d1	35.9	29.3		31.5	23.3		34.0	11.8		36.0	12.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.1	0.3		7.5	0.0		150.9	2.5		21.6	0.9	
Delay (s)	39.0	29.7		39.0	23.4		184.9	14.3		57.6	13.2	
Level of Service	D	C		D	C		F	B		E	B	
Approach Delay (s)		29.9			36.6			53.1			15.0	
Approach LOS		C			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	86	21	742	18	458
v/c Ratio	0.30	0.05	0.58	0.10	0.32
Control Delay	20.0	4.7	15.3	20.6	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.0	4.7	15.3	20.6	4.3
Queue Length 50th (ft)	25	0	93	5	46
Queue Length 95th (ft)	36	6	#335	17	91
Internal Link Dist (ft)	355		673		446
Turn Bay Length (ft)		100		160	
Base Capacity (vph)	663	616	1285	184	1451
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.03	0.58	0.10	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	409	104	539	470	150	482
v/c Ratio	0.55	0.24	0.26	0.52	0.51	0.15
Control Delay	21.5	6.0	13.0	4.3	27.2	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	6.0	13.0	4.3	27.2	4.9
Queue Length 50th (ft)	59	0	43	0	43	19
Queue Length 95th (ft)	88	26	77	56	95	38
Internal Link Dist (ft)	673		1248			1130
Turn Bay Length (ft)	360	420		180	280	
Base Capacity (vph)	1151	600	2069	907	346	3127
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.17	0.26	0.52	0.43	0.15

Intersection Summary

Appendix D – Future Conditions Level of Service Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1	232	195	4	1	66	293	85	0	400	4
Future Volume (vph)	12	1	232	195	4	1	66	293	85	0	400	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	0.99			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.85		1.00	0.96		1.00	0.97			1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1770	1540		1770	1780		1770	1790			1859	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1770	1540		1770	1780		1770	1790			1859	
Peak-hour factor, PHF	0.67	0.67	0.67	0.65	0.65	0.65	0.70	0.70	0.70	0.77	0.77	0.77
Adj. Flow (vph)	18	1	346	300	6	2	94	419	121	0	519	5
RTOR Reduction (vph)	0	206	0	0	1	0	0	9	0	0	1	0
Lane Group Flow (vph)	18	141	0	300	7	0	94	531	0	0	523	0
Confl. Peds. (#/hr)			3			3			2			13
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.0	16.0		17.5	32.5		6.3	51.1			40.3	
Effective Green, g (s)	1.0	16.0		17.5	32.5		6.3	51.1			40.3	
Actuated g/C Ratio	0.01	0.16		0.18	0.33		0.06	0.52			0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	18	251		315	589		113	932			763	
v/s Ratio Prot	0.01	c0.09		c0.17	0.00		c0.05	0.30			c0.28	
v/s Ratio Perm												
v/c Ratio	1.00	0.56		0.95	0.01		0.83	0.57			0.69	
Uniform Delay, d1	48.5	37.8		39.9	22.0		45.4	16.0			23.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	212.1	2.9		37.9	0.0		38.1	2.5			5.0	
Delay (s)	260.7	40.7		77.8	22.0		83.5	18.5			28.7	
Level of Service	F	D		E	C		F	B			C	
Approach Delay (s)		51.5			76.4			28.2			28.7	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	98.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	113	52	392	14	20	827
Future Volume (vph)	113	52	392	14	20	827
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1854		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1854		1770	1863
Peak-hour factor, PHF	0.65	0.65	0.67	0.67	0.76	0.76
Adj. Flow (vph)	174	80	585	21	26	1088
RTOR Reduction (vph)	0	55	2	0	0	0
Lane Group Flow (vph)	174	25	604	0	26	1088
Confl. Peds. (#/hr)		4				
Turn Type	Prot	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Actuated Green, G (s)	8.6	16.1	26.0		3.0	33.5
Effective Green, g (s)	8.6	16.1	26.0		3.0	33.5
Actuated g/C Ratio	0.17	0.32	0.51		0.06	0.66
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	297	498	943		103	1221
v/s Ratio Prot	c0.10	0.02	0.33		0.01	c0.58
v/s Ratio Perm						
v/c Ratio	0.59	0.05	0.64		0.25	0.89
Uniform Delay, d1	19.6	12.2	9.1		23.0	7.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.9	0.0	3.3		1.3	10.0
Delay (s)	22.5	12.2	12.5		24.3	17.3
Level of Service	C	B	B		C	B
Approach Delay (s)	19.3		12.5			17.5
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	51.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	526	301	353	207	199	581
Future Volume (vph)	526	301	353	207	199	581
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1583	1770	5085
Peak-hour factor, PHF	0.87	0.87	0.70	0.70	0.70	0.70
Adj. Flow (vph)	605	346	504	296	284	830
RTOR Reduction (vph)	0	254	0	203	0	0
Lane Group Flow (vph)	605	92	504	93	284	830
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	15.3	15.3	18.1	18.1	10.5	33.1
Effective Green, g (s)	15.3	15.3	18.1	18.1	10.5	33.1
Actuated g/C Ratio	0.27	0.27	0.32	0.32	0.18	0.58
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	915	421	1603	499	323	2932
v/s Ratio Prot	c0.18		0.10		c0.16	c0.16
v/s Ratio Perm		0.06		0.06		
v/c Ratio	0.66	0.22	0.31	0.19	0.88	0.28
Uniform Delay, d1	18.7	16.4	14.9	14.3	22.8	6.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.3	0.5	0.8	22.7	0.2
Delay (s)	20.5	16.7	15.4	15.1	45.5	6.4
Level of Service	C	B	B	B	D	A
Approach Delay (s)	19.1		15.3			16.4
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	57.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	7	101	100	4	0	91	205	67	0	244	3
Future Volume (vph)	3	7	101	100	4	0	91	205	67	0	244	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.97		1.00	1.00		1.00	0.99			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.86		1.00	1.00		1.00	0.96			1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1770	1557		1770	1863		1770	1781			1859	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1770	1557		1770	1863		1770	1781			1859	
Peak-hour factor, PHF	0.65	0.65	0.65	0.48	0.48	0.48	0.93	0.93	0.93	0.65	0.65	0.65
Adj. Flow (vph)	5	11	155	208	8	0	98	220	72	0	375	5
RTOR Reduction (vph)	0	132	0	0	0	0	0	11	0	0	1	0
Lane Group Flow (vph)	5	34	0	208	8	0	98	281	0	0	379	0
Confl. Peds. (#/hr)			5			7			5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.9	10.9		11.1	21.1		5.3	37.1			27.3	
Effective Green, g (s)	0.9	10.9		11.1	21.1		5.3	37.1			27.3	
Actuated g/C Ratio	0.01	0.15		0.15	0.29		0.07	0.51			0.38	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	21	233		270	541		129	910			699	
v/s Ratio Prot	0.00	c0.02		c0.12	0.00		c0.06	0.16			c0.20	
v/s Ratio Perm												
v/c Ratio	0.24	0.15		0.77	0.01		0.76	0.31			0.54	
Uniform Delay, d1	35.5	26.8		29.5	18.3		33.0	10.3			17.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	5.8	0.3		12.7	0.0		22.3	0.9			3.0	
Delay (s)	41.3	27.1		42.2	18.4		55.3	11.2			20.8	
Level of Service	D	C		D	B		E	B			C	
Approach Delay (s)		27.5			41.3			22.3			20.8	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	72.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	51	12	334	29	11	437
Future Volume (vph)	51	12	334	29	11	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1843		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1843		1770	1863
Peak-hour factor, PHF	0.88	0.88	0.67	0.67	0.76	0.76
Adj. Flow (vph)	58	14	499	43	14	575
RTOR Reduction (vph)	0	11	3	0	0	0
Lane Group Flow (vph)	58	3	539	0	14	575
Confl. Peds. (#/hr)		7				
Turn Type	Prot	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Actuated Green, G (s)	4.7	10.3	36.1		1.1	41.7
Effective Green, g (s)	4.7	10.3	36.1		1.1	41.7
Actuated g/C Ratio	0.08	0.19	0.65		0.02	0.75
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	150	294	1200		35	1402
v/s Ratio Prot	c0.03	0.00	c0.29		0.01	c0.31
v/s Ratio Perm						
v/c Ratio	0.39	0.01	0.45		0.40	0.41
Uniform Delay, d1	24.0	18.4	4.8		26.8	2.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.7	0.0	1.2		7.3	0.9
Delay (s)	25.6	18.4	6.0		34.2	3.3
Level of Service	C	B	A		C	A
Approach Delay (s)	24.2		6.0			4.1
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	55.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	175	142	325	145	125	437
Future Volume (vph)	175	142	325	145	125	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1545	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1545	1770	5085
Peak-hour factor, PHF	0.83	0.83	0.97	0.97	0.66	0.66
Adj. Flow (vph)	211	171	335	149	189	662
RTOR Reduction (vph)	0	144	0	86	0	0
Lane Group Flow (vph)	211	27	335	63	189	662
Confl. Peds. (#/hr)				3		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	8.4	8.4	22.2	22.2	8.2	34.9
Effective Green, g (s)	8.4	8.4	22.2	22.2	8.2	34.9
Actuated g/C Ratio	0.16	0.16	0.42	0.42	0.16	0.67
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	551	254	2158	655	277	3393
v/s Ratio Prot	c0.06		0.07		c0.11	c0.13
v/s Ratio Perm		0.02		0.04		
v/c Ratio	0.38	0.11	0.16	0.10	0.68	0.20
Uniform Delay, d1	19.6	18.8	9.3	9.0	20.8	3.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.2	0.2	0.3	6.8	0.1
Delay (s)	20.1	18.9	9.4	9.3	27.6	3.5
Level of Service	C	B	A	A	C	A
Approach Delay (s)	19.6		9.4			8.8
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	52.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	84	44	2	0	130	324	63	1	218	1
Future Volume (vph)	3	1	84	44	2	0	130	324	63	1	218	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1540		1770	1863		1770	1808		1770	1862	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1540		1770	1863		1770	1808		1770	1862	
Peak-hour factor, PHF	0.88	0.88	0.88	0.82	0.82	0.82	0.82	0.82	0.82	0.83	0.83	0.83
Adj. Flow (vph)	3	1	95	54	2	0	159	395	77	1	263	1
RTOR Reduction (vph)	0	85	0	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	3	11	0	54	2	0	159	466	0	1	264	0
Confl. Peds. (#/hr)			5			7			5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.9	7.1		4.7	10.9		5.4	39.0		0.9	34.5	
Effective Green, g (s)	0.9	7.1		4.7	10.9		5.4	39.0		0.9	34.5	
Actuated g/C Ratio	0.01	0.10		0.07	0.16		0.08	0.56		0.01	0.49	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	22	156		119	291		137	1011		22	921	
v/s Ratio Prot	0.00	c0.01		c0.03	c0.00		c0.09	c0.26		0.00	0.14	
v/s Ratio Perm												
v/c Ratio	0.14	0.07		0.45	0.01		1.16	0.46		0.05	0.29	
Uniform Delay, d1	34.0	28.3		31.3	24.8		32.1	9.1		34.0	10.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.8	0.2		2.7	0.0		126.5	1.5		0.9	0.8	
Delay (s)	36.8	28.5		34.0	24.8		158.7	10.6		34.8	11.1	
Level of Service	D	C		C	C		F	B		C	B	
Approach Delay (s)		28.7			33.7			47.9			11.2	
Approach LOS		C			C			D			B	

Intersection Summary			
HCM 2000 Control Delay	36.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	69.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	60	7	506	47	7	341
Future Volume (vph)	60	7	506	47	7	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1841		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1841		1770	1863
Peak-hour factor, PHF	0.70	0.70	0.81	0.81	0.85	0.85
Adj. Flow (vph)	86	10	625	58	8	401
RTOR Reduction (vph)	0	8	3	0	0	0
Lane Group Flow (vph)	86	2	680	0	8	401
Confl. Peds. (#/hr)		7				
Turn Type	Prot	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Actuated Green, G (s)	5.3	10.9	35.2		1.1	40.8
Effective Green, g (s)	5.3	10.9	35.2		1.1	40.8
Actuated g/C Ratio	0.10	0.20	0.64		0.02	0.74
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	170	313	1176		35	1379
v/s Ratio Prot	c0.05	0.00	c0.37		0.00	c0.22
v/s Ratio Perm						
v/c Ratio	0.51	0.01	0.58		0.23	0.29
Uniform Delay, d1	23.7	17.8	5.7		26.6	2.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.4	0.0	2.1		3.3	0.5
Delay (s)	26.0	17.8	7.8		29.9	2.9
Level of Service	C	B	A		C	A
Approach Delay (s)	25.2		7.8			3.4
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	55.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	43.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	320	68	485	395	127	472
Future Volume (vph)	320	68	485	395	127	472
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1545	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1545	1770	5085
Peak-hour factor, PHF	0.85	0.85	0.90	0.90	0.98	0.98
Adj. Flow (vph)	376	80	539	439	130	482
RTOR Reduction (vph)	0	64	0	260	0	0
Lane Group Flow (vph)	376	16	539	179	130	482
Confl. Peds. (#/hr)				3		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	11.1	11.1	22.2	22.2	7.5	34.2
Effective Green, g (s)	11.1	11.1	22.2	22.2	7.5	34.2
Actuated g/C Ratio	0.20	0.20	0.41	0.41	0.14	0.63
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	701	323	2078	631	244	3202
v/s Ratio Prot	c0.11		0.11		c0.07	0.09
v/s Ratio Perm		0.01		c0.12		
v/c Ratio	0.54	0.05	0.26	0.28	0.53	0.15
Uniform Delay, d1	19.3	17.4	10.6	10.7	21.8	4.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.1	0.3	1.1	2.2	0.1
Delay (s)	20.1	17.4	10.9	11.9	24.0	4.2
Level of Service	C	B	B	B	C	A
Approach Delay (s)	19.6		11.3			8.4
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	54.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Appendix E – Future plus Project Conditions Level of Service Worksheets

HCM Signalized Intersection Capacity Analysis
1: Positano Parkway & W Cantara Drive

06/13/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	5	232	223	8	5	66	293	117	4	400	4
Future Volume (vph)	12	5	232	223	8	5	66	293	117	4	400	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.94		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1544		1770	1731		1770	1770		1770	1859	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1544		1770	1731		1770	1770		1770	1859	
Peak-hour factor, PHF	0.67	0.67	0.67	0.65	0.65	0.65	0.70	0.70	0.70	0.77	0.77	0.77
Adj. Flow (vph)	18	7	346	343	12	8	94	419	167	5	519	5
RTOR Reduction (vph)	0	186	0	0	5	0	0	11	0	0	0	0
Lane Group Flow (vph)	18	167	0	343	15	0	94	575	0	5	524	0
Confl. Peds. (#/hr)			3			3			2			13
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.0	17.8		23.0	39.8		8.2	50.8		0.9	43.5	
Effective Green, g (s)	1.0	17.8		23.0	39.8		8.2	50.8		0.9	43.5	
Actuated g/C Ratio	0.01	0.16		0.21	0.36		0.07	0.46		0.01	0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	16	248		368	623		131	813		14	731	
v/s Ratio Prot	0.01	c0.11		c0.19	0.01		c0.05	c0.32		0.00	0.28	
v/s Ratio Perm												
v/c Ratio	1.12	0.67		0.93	0.02		0.72	0.71		0.36	0.72	
Uniform Delay, d1	54.8	43.6		43.0	22.8		50.0	23.9		54.5	28.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	268.4	7.0		30.1	0.0		17.1	5.1		14.9	6.0	
Delay (s)	323.2	50.6		73.0	22.8		67.1	29.0		69.5	34.3	
Level of Service	F	D		E	C		E	C		E	C	
Approach Delay (s)		63.8			70.3			34.3			34.6	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	46.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
1: Positano Parkway & W Cantara Drive

06/13/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	5	232	223	8	5	66	293	141	4	400	4
Future Volume (vph)	12	5	232	223	8	5	66	293	141	4	400	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.94		1.00	0.95		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1544		1770	1731		1770	1757		1770	1859	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1544		1770	1731		1770	1757		1770	1859	
Peak-hour factor, PHF	0.67	0.67	0.67	0.65	0.65	0.65	0.70	0.70	0.70	0.77	0.77	0.77
Adj. Flow (vph)	18	7	346	343	12	8	94	419	201	5	519	5
RTOR Reduction (vph)	0	190	0	0	5	0	0	14	0	0	0	0
Lane Group Flow (vph)	18	163	0	343	15	0	94	606	0	5	524	0
Confl. Peds. (#/hr)			3			3			2			13
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.0	16.8		22.8	37.6		8.5	52.1		0.9	44.5	
Effective Green, g (s)	2.0	16.8		22.8	37.6		8.5	52.1		0.9	44.5	
Actuated g/C Ratio	0.02	0.15		0.21	0.34		0.08	0.47		0.01	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	32	234		364	588		136	827		14	747	
v/s Ratio Prot	0.01	c0.11		c0.19	0.01		c0.05	c0.35		0.00	0.28	
v/s Ratio Perm												
v/c Ratio	0.56	0.70		0.94	0.03		0.69	0.73		0.36	0.70	
Uniform Delay, d1	53.9	44.5		43.3	24.3		49.8	23.6		54.6	27.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	20.7	8.7		32.5	0.0		14.1	5.7		14.9	5.4	
Delay (s)	74.5	53.2		75.7	24.3		63.9	29.3		69.5	33.0	
Level of Service	E	D		E	C		E	C		E	C	
Approach Delay (s)		54.2			72.9			33.9			33.3	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	44.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	110.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	113	56	416	14	24	851
Future Volume (vph)	113	56	416	14	24	851
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1855		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1855		1770	1863
Peak-hour factor, PHF	0.65	0.65	0.67	0.67	0.76	0.76
Adj. Flow (vph)	174	86	621	21	32	1120
RTOR Reduction (vph)	0	59	1	0	0	0
Lane Group Flow (vph)	174	27	641	0	32	1120
Confl. Peds. (#/hr)		4				
Turn Type	Prot	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Actuated Green, G (s)	8.6	16.1	25.9		3.0	33.4
Effective Green, g (s)	8.6	16.1	25.9		3.0	33.4
Actuated g/C Ratio	0.17	0.32	0.51		0.06	0.65
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	298	499	942		104	1220
v/s Ratio Prot	c0.10	0.02	0.35		0.02	c0.60
v/s Ratio Perm						
v/c Ratio	0.58	0.05	0.68		0.31	0.92
Uniform Delay, d1	19.5	12.1	9.4		23.0	7.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.9	0.0	4.0		1.7	12.4
Delay (s)	22.5	12.2	13.4		24.7	20.0
Level of Service	C	B	B		C	B
Approach Delay (s)	19.1		13.4			20.1
Approach LOS	B		B			C

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	51.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	540	311	353	221	209	581
Future Volume (vph)	540	311	353	221	209	581
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1583	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1583	1770	5085
Peak-hour factor, PHF	0.87	0.87	0.70	0.70	0.70	0.70
Adj. Flow (vph)	621	357	504	316	299	830
RTOR Reduction (vph)	0	261	0	217	0	0
Lane Group Flow (vph)	621	96	504	99	299	830
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	15.4	15.4	18.1	18.1	10.5	33.1
Effective Green, g (s)	15.4	15.4	18.1	18.1	10.5	33.1
Actuated g/C Ratio	0.27	0.27	0.31	0.31	0.18	0.58
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	919	423	1600	498	323	2927
v/s Ratio Prot	c0.18		0.10		c0.17	c0.16
v/s Ratio Perm		0.06		0.06		
v/c Ratio	0.68	0.23	0.32	0.20	0.93	0.28
Uniform Delay, d1	18.8	16.4	15.0	14.4	23.1	6.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.3	0.5	0.9	31.3	0.2
Delay (s)	20.8	16.7	15.5	15.3	54.4	6.4
Level of Service	C	B	B	B	D	A
Approach Delay (s)	19.3		15.4			19.1
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	57.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	114	36	4	200	36	4
Future Volume (Veh/h)	114	36	4	200	36	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	124	39	4	217	39	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	289					
pX, platoon unblocked						
vC, conflicting volume			163		368	144
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			163		368	144
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		94	100
cM capacity (veh/h)			1416		630	904

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	163	221	43
Volume Left	0	4	39
Volume Right	39	0	4
cSH	1700	1416	648
Volume to Capacity	0.10	0.00	0.07
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.2	10.9
Lane LOS		A	B
Approach Delay (s)	0.0	0.2	10.9
Approach LOS			B

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	23.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
1: Positano Parkway & W Cantara Drive

06/07/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	10	101	122	7	3	91	205	70	3	244	3
Future Volume (vph)	3	10	101	122	7	3	91	205	70	3	244	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.96		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1563		1770	1765		1770	1778		1770	1859	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1563		1770	1765		1770	1778		1770	1859	
Peak-hour factor, PHF	0.65	0.65	0.65	0.48	0.48	0.48	0.93	0.93	0.93	0.65	0.65	0.65
Adj. Flow (vph)	5	15	155	254	15	6	98	220	75	5	375	5
RTOR Reduction (vph)	0	133	0	0	4	0	0	12	0	0	1	0
Lane Group Flow (vph)	5	37	0	254	17	0	98	283	0	5	379	0
Confl. Peds. (#/hr)			5			7			5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.9	11.0		11.5	21.6		5.3	35.3		0.9	30.9	
Effective Green, g (s)	0.9	11.0		11.5	21.6		5.3	35.3		0.9	30.9	
Actuated g/C Ratio	0.01	0.14		0.15	0.28		0.07	0.46		0.01	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	20	224		265	497		122	818		20	748	
v/s Ratio Prot	0.00	c0.02		c0.14	0.01		c0.06	c0.16		0.00	c0.20	
v/s Ratio Perm												
v/c Ratio	0.25	0.17		0.96	0.03		0.80	0.35		0.25	0.51	
Uniform Delay, d1	37.6	28.8		32.4	20.0		35.2	13.3		37.6	17.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.5	0.4		43.4	0.0		30.5	1.2		6.5	2.4	
Delay (s)	44.0	29.2		75.8	20.0		65.7	14.4		44.0	19.6	
Level of Service	D	C		E	C		E	B		D	B	
Approach Delay (s)		29.6			71.5			27.2			20.0	
Approach LOS		C			E			C			B	

Intersection Summary			
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	76.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
1: Positano Parkway & W Cantara Drive

06/07/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	10	101	122	7	3	91	205	89	3	244	3
Future Volume (vph)	3	10	101	122	7	3	91	205	89	3	244	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.96		1.00	0.95		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1563		1770	1765		1770	1761		1770	1859	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1563		1770	1765		1770	1761		1770	1859	
Peak-hour factor, PHF	0.65	0.65	0.65	0.48	0.48	0.48	0.93	0.93	0.93	0.65	0.65	0.65
Adj. Flow (vph)	5	15	155	254	15	6	98	220	96	5	375	5
RTOR Reduction (vph)	0	133	0	0	4	0	0	16	0	0	1	0
Lane Group Flow (vph)	5	37	0	254	17	0	98	300	0	5	379	0
Confl. Peds. (#/hr)			5			7			5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.9	11.0		11.5	21.6		5.3	35.3		0.9	30.9	
Effective Green, g (s)	0.9	11.0		11.5	21.6		5.3	35.3		0.9	30.9	
Actuated g/C Ratio	0.01	0.14		0.15	0.28		0.07	0.46		0.01	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	20	224		265	497		122	810		20	748	
v/s Ratio Prot	0.00	c0.02		c0.14	0.01		c0.06	c0.17		0.00	c0.20	
v/s Ratio Perm												
v/c Ratio	0.25	0.17		0.96	0.03		0.80	0.37		0.25	0.51	
Uniform Delay, d1	37.6	28.8		32.4	20.0		35.2	13.5		37.6	17.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.5	0.4		43.4	0.0		30.5	1.3		6.5	2.4	
Delay (s)	44.0	29.2		75.8	20.0		65.7	14.8		44.0	19.6	
Level of Service	D	C		E	C		E	B		D	B	
Approach Delay (s)		29.6			71.5			26.8			20.0	
Approach LOS		C			E			C			B	

Intersection Summary			
HCM 2000 Control Delay	34.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	76.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	51	15	353	29	14	456
Future Volume (vph)	51	15	353	29	14	456
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1844		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1844		1770	1863
Peak-hour factor, PHF	0.88	0.88	0.67	0.67	0.76	0.76
Adj. Flow (vph)	58	17	527	43	18	600
RTOR Reduction (vph)	0	13	3	0	0	0
Lane Group Flow (vph)	58	4	567	0	18	600
Confl. Peds. (#/hr)		7				
Turn Type	Prot	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Actuated Green, G (s)	4.8	11.5	32.8		2.2	39.5
Effective Green, g (s)	4.8	11.5	32.8		2.2	39.5
Actuated g/C Ratio	0.09	0.22	0.62		0.04	0.74
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	159	341	1134		73	1380
v/s Ratio Prot	c0.03	0.00	c0.31		0.01	c0.32
v/s Ratio Perm						
v/c Ratio	0.36	0.01	0.50		0.25	0.43
Uniform Delay, d1	22.8	16.4	5.7		24.7	2.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.4	0.0	1.6		1.8	1.0
Delay (s)	24.2	16.4	7.3		26.5	3.6
Level of Service	C	B	A		C	A
Approach Delay (s)	22.5		7.3			4.3
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	53.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	186	150	325	156	133	437
Future Volume (vph)	186	150	325	156	133	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1545	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1545	1770	5085
Peak-hour factor, PHF	0.83	0.83	0.97	0.97	0.66	0.66
Adj. Flow (vph)	224	181	335	161	202	662
RTOR Reduction (vph)	0	150	0	101	0	0
Lane Group Flow (vph)	224	31	335	60	202	662
Confl. Peds. (#/hr)				3		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	8.6	8.6	18.9	18.9	9.6	33.0
Effective Green, g (s)	8.6	8.6	18.9	18.9	9.6	33.0
Actuated g/C Ratio	0.17	0.17	0.37	0.37	0.19	0.65
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	583	269	1899	577	335	3316
v/s Ratio Prot	c0.07		0.07		c0.11	c0.13
v/s Ratio Perm		0.02		0.04		
v/c Ratio	0.38	0.11	0.18	0.10	0.60	0.20
Uniform Delay, d1	18.6	17.8	10.6	10.3	18.8	3.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.2	0.2	0.4	3.0	0.1
Delay (s)	19.1	18.0	10.8	10.7	21.8	3.7
Level of Service	B	B	B	B	C	A
Approach Delay (s)	18.6		10.8			7.9
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	50.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	38.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	74	28	3	160	28	3
Future Volume (Veh/h)	74	28	3	160	28	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	80	30	3	174	30	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	254					
pX, platoon unblocked						
vC, conflicting volume			110		275	95
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			110		275	95
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	100
cM capacity (veh/h)			1480		713	962

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	110	177	33
Volume Left	0	3	30
Volume Right	30	0	3
cSH	1700	1480	730
Volume to Capacity	0.06	0.00	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.1	10.2
Lane LOS		A	B
Approach Delay (s)	0.0	0.1	10.2
Approach LOS			B

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	20.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
1: Positano Parkway & W Cantara Drive

06/13/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	10	101	122	7	3	91	205	70	3	244	3
Future Volume (vph)	3	10	101	122	7	3	91	205	70	3	244	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.96		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1563		1770	1765		1770	1778		1770	1859	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1563		1770	1765		1770	1778		1770	1859	
Peak-hour factor, PHF	0.65	0.65	0.65	0.48	0.48	0.48	0.93	0.93	0.93	0.65	0.65	0.65
Adj. Flow (vph)	5	15	155	254	15	6	98	220	75	5	375	5
RTOR Reduction (vph)	0	132	0	0	4	0	0	13	0	0	1	0
Lane Group Flow (vph)	5	38	0	254	17	0	98	282	0	5	379	0
Confl. Peds. (#/hr)			5			7			5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.2	11.1		13.0	22.9		5.3	33.3		0.9	28.9	
Effective Green, g (s)	1.2	11.1		13.0	22.9		5.3	33.3		0.9	28.9	
Actuated g/C Ratio	0.02	0.15		0.17	0.30		0.07	0.44		0.01	0.38	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	27	227		301	529		122	775		20	704	
v/s Ratio Prot	0.00	c0.02		c0.14	0.01		c0.06	c0.16		0.00	c0.20	
v/s Ratio Perm												
v/c Ratio	0.19	0.17		0.84	0.03		0.80	0.36		0.25	0.54	
Uniform Delay, d1	37.1	28.5		30.7	18.9		35.0	14.4		37.4	18.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.3	0.3		18.9	0.0		30.5	1.3		6.5	2.9	
Delay (s)	40.4	28.9		49.6	18.9		65.5	15.7		43.8	21.4	
Level of Service	D	C		D	B		E	B		D	C	
Approach Delay (s)		29.2			47.3			28.1			21.7	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	76.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
1: Positano Parkway & W Cantara Drive

06/13/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	10	101	122	7	3	91	205	89	3	244	3
Future Volume (vph)	3	10	101	122	7	3	91	205	89	3	244	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.96		1.00	0.95		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1563		1770	1765		1770	1761		1770	1859	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1563		1770	1765		1770	1761		1770	1859	
Peak-hour factor, PHF	0.65	0.65	0.65	0.48	0.48	0.48	0.93	0.93	0.93	0.65	0.65	0.65
Adj. Flow (vph)	5	15	155	254	15	6	98	220	96	5	375	5
RTOR Reduction (vph)	0	132	0	0	4	0	0	16	0	0	1	0
Lane Group Flow (vph)	5	38	0	254	17	0	98	300	0	5	379	0
Confl. Peds. (#/hr)			5			7			5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.0	11.1		12.8	22.9		5.3	33.6		0.9	29.2	
Effective Green, g (s)	1.0	11.1		12.8	22.9		5.3	33.6		0.9	29.2	
Actuated g/C Ratio	0.01	0.15		0.17	0.30		0.07	0.44		0.01	0.38	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	23	227		296	529		122	774		20	710	
v/s Ratio Prot	0.00	c0.02		c0.14	0.01		c0.06	c0.17		0.00	c0.20	
v/s Ratio Perm												
v/c Ratio	0.22	0.17		0.86	0.03		0.80	0.39		0.25	0.53	
Uniform Delay, d1	37.3	28.6		30.9	18.9		35.0	14.4		37.4	18.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	0.3		21.0	0.0		30.5	1.5		6.5	2.9	
Delay (s)	42.0	28.9		51.9	18.9		65.5	15.9		43.9	21.2	
Level of Service	D	C		D	B		E	B		D	C	
Approach Delay (s)		29.3			49.4			27.7			21.5	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	76.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	60	15	554	47	15	389
Future Volume (vph)	60	15	554	47	15	389
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1843		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1843		1770	1863
Peak-hour factor, PHF	0.70	0.70	0.81	0.81	0.85	0.85
Adj. Flow (vph)	86	21	684	58	18	458
RTOR Reduction (vph)	0	16	3	0	0	0
Lane Group Flow (vph)	86	5	739	0	18	458
Confl. Peds. (#/hr)		7				
Turn Type	Prot	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Actuated Green, G (s)	5.3	11.9	31.7		2.1	38.3
Effective Green, g (s)	5.3	11.9	31.7		2.1	38.3
Actuated g/C Ratio	0.10	0.23	0.60		0.04	0.73
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	178	358	1110		70	1356
v/s Ratio Prot	c0.05	0.00	c0.40		0.01	c0.25
v/s Ratio Perm						
v/c Ratio	0.48	0.01	0.67		0.26	0.34
Uniform Delay, d1	22.4	15.8	6.9		24.5	2.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.1	0.0	3.2		1.9	0.7
Delay (s)	24.4	15.8	10.1		26.4	3.3
Level of Service	C	B	B		C	A
Approach Delay (s)	22.7		10.1			4.1
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	52.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	348	88	485	423	147	472
Future Volume (vph)	348	88	485	423	147	472
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5085	1545	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5085	1545	1770	5085
Peak-hour factor, PHF	0.85	0.85	0.90	0.90	0.98	0.98
Adj. Flow (vph)	409	104	539	470	150	482
RTOR Reduction (vph)	0	82	0	282	0	0
Lane Group Flow (vph)	409	22	539	188	150	482
Confl. Peds. (#/hr)				3		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	11.7	11.7	21.9	21.9	7.6	34.0
Effective Green, g (s)	11.7	11.7	21.9	21.9	7.6	34.0
Actuated g/C Ratio	0.21	0.21	0.40	0.40	0.14	0.62
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	734	338	2035	618	245	3160
v/s Ratio Prot	c0.12		0.11		c0.08	0.09
v/s Ratio Perm		0.01		c0.12		
v/c Ratio	0.56	0.07	0.26	0.30	0.61	0.15
Uniform Delay, d1	19.2	17.1	11.0	11.2	22.2	4.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.1	0.3	1.3	4.5	0.1
Delay (s)	20.1	17.2	11.3	12.5	26.6	4.4
Level of Service	C	B	B	B	C	A
Approach Delay (s)	19.5		11.9			9.7
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	54.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	65	72	8	46	72	8
Future Volume (Veh/h)	65	72	8	46	72	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	71	78	9	50	78	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	377					
pX, platoon unblocked						
vC, conflicting volume			149		178	110
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			149		178	110
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		90	99
cM capacity (veh/h)			1432		807	943

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	149	59	87
Volume Left	0	9	78
Volume Right	78	0	9
cSH	1700	1432	819
Volume to Capacity	0.09	0.01	0.11
Queue Length 95th (ft)	0	0	9
Control Delay (s)	0.0	1.2	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	1.2	9.9
Approach LOS			A

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	20.4%	ICU Level of Service	A
Analysis Period (min)	15		