CivTech

February 26, 2019

Mr. Paul Michaud
Senior Planner
Town of Paradise Valley
6401 E Lincoln Drive
480-348-3574 (phone)

RE: Response to Neighbor and Council Questions

Mr. Michaud:

During the last work study session for the Mountain View Medical Center, several questions were raised and additional tasks requested as part of the Traffic Impact Analysis. Below is a list of the specific questions and requests and the results of the updated analysis.

i. Perform the various simulations/volume counts to describe the impact on vehicle stacking while waiting to turn left onto Shea Blvd. heading north on Tatum, including the length of this stacking.

Please see attachment for the levels of service predicted and the resulting queue storage for the PM peak. A field review was conducted which indicated that the initial queue for the southbound left turns was approximately 7 vehicles while the initial queueing for the northbound vehicles was 22. Three random seeding evaluations were simulated and then averaged to compute the queue storage for all movements at the intersection. A simulation analysis, starting with existing traffic flow validation, resulted in better levels of service than the static intersection analysis reported within the TIA for the Mountain View Medical Center. Results of the analysis are attached.

ii. More information on signalized timing, what changes can be made to improve traffic flow on Tatum Blvd.

The traffic signal would be optimized by an increase in cycle length from 120 seconds to 150 seconds. The existing delay occurs on the on northbound left turn and westbound through movements. To assist with the delay green time is added to the northbound left turn movement and decreased from the eastbound through. The green time was increased for the westbound through movement and decreased from the southbound left turn movement.

iii. Describe impact on U-turns that occur from vehicles heading south from Fry's and then going north, include possible implements.

During peak hours there is a stated challenge with vehicles egressing the Fry's driveway unable to negotiate a left turn on Tatum Boulevard to head north. These vehicles negotiate a right turn and head south on Tatum Boulevard and then U-turn on Tatum or the Beryl alignment to head north. This movement is assumed to be made by drivers desiring to head east on Shea Boulevard or north of Tatum Boulevard. Queuing on Shea Boulevard beyond the first driveway and a poorly configured

parking area in front of Fry's likely contribute to a driver's choice to use Tatum Boulevard for these movements. Shea Boulevard would be the typical choice of drivers for these movements. The new medical center will not change this condition which is caused by the land uses and driveway locations on the southwest corner of Tatum Boulevard and Shea Boulevard in the City of Phoenix.

The City of Phoenix is proposing a new traffic signal along Shea Boulevard, west of Tatum Boulevard, at the existing Fry's/Trader Joe's driveway. This will allow more opportunity for vehicles to enter the traffic stream when they desire to head east on Shea Boulevard or north on Tatum Boulevard. The new signal should significantly reduce the occurrence of the U-turn behavior experienced in the existing condition.

iv. Address the need for any bus bays on Shea Blvd or Tatum Blvd. The analysis would note that there is no bus bay along this site on Tatum Blvd. since it is north of the intersection. There is also a bus stop 250' south of Beryl that should be addressed.

Currently bus bays are not provided in or around the proposed site; busses stop in lane with an existing bus stop located 250-feet south of Beryl Road along Tatum Boulevard. It should also be noted that an existing bus stop currently exists along the northern site frontage on Shea Boulevard approximately 240-feet east of Tatum Boulevard (from center). The simulation analysis shows that a bus frequency of 15-minute headways does not adversely affect delays for more than one signal cycle. Since the existing traffic patterns are not affected, bus bays are not warranted along the Tatum Boulevard or Shea Boulevard site frontage. There may be other warranting criteria for the addition of bus bays such as the number of riders using each of these stops. In addition, bus bays require maintenance that would be the responsibility of the City of Phoenix. The City of Phoenix would need to agree to the long-term maintenance and upkeep of any new bus bay location.

v. Address warrant for any deceleration lanes on Shea Blvd. or Tatum Blvd. This is in the provided analysis. However, at the meeting it was discussed that restriping could be done on northbound Tatum Blvd within existing asphalt. This should be explained more with graphics. If you could provide the frequency of restriping on major arterials like Tatum Blvd from the city of Phoenix that would be helpful.

The outer most NB Thru lane currently provides about 26-feet of pavement that begins to taper down to 11-feet approaching the intersection of Tatum Boulevard and Shea Boulevard. Per the City of Phoenix standards a thru lane and/or turn lane should provide a minimum lane width of 10-feet. Considering the outer NB thru lane provides about 26-feet of pavement, some of this can be used for a turn lane while still providing a 12 foot third through lane in the northbound direction. Please see exhibit below.

The City of Phoenix does not require deceleration lane installation where there are three through lanes in each direction. Correspondence with the City of Phoenix indicates that they would be willing to allow the installation of deceleration lanes at the discretion of the Town of Paradise Valley. A deceleration lane warrant was performed for all of the site driveways using the criteria established by the Town of Paradise Valley. The latest section from the TIA summarizing these warrants has been included below:

QUEUING ANALYSIS

Right-Turn Declaration Lanes.

Per *the Town of Paradise Valley Traffic Impact Analysis Criteria, May 2015,* the need for a deceleration lane is determined with criteria. The proposed site conditions must meet a **minimum of three** of the following criteria:

1. At least 5,000 vehicles per day are using or are expected in the near future (five years after the development is build out) to be using the adjacent street.

2. The posted speed limit is 35 mph or the 85th percentile speed limit is greater than 35 mph.

3. At least 1,000 vehicles per day are using or are expected to use the driveways(s) for the development or adjacent developments(s) (existing of future).

4. At least 90 vehicles are expected to make right turns into the driveway(s) for a one-hour period for the development or adjacent developments (existing or future).

Table 1 - Right-Turn Lane Criteria

Intersection	Peak Period Right-turn Volume AM (PM)	Criteria Met?			
		Criteria 1	Criteria 2	Criteria 3	Criteria 4
Tatum Blvd & Fry's Dwy/Medical Center Dwy	NB – 27(13)	Yes	Yes	No	No
Tatum Blvd & Beryl Avenue	NB – 17(8)	Yes	Yes	No	No
Albertson's Dwy/Medical Center Dwy & Shea Blvd	EB – 57(26)	Yes	Yes	No	No

Deceleration lanes are not warranted at any of the site driveways. A deceleration lane was recommended at for northbound right turns onto Beryl Drive since it has the high number of entering vehicles and width along Tatum Boulevard appears to be available. This will provide more than required by the Town of Paradise Valley and the City of Phoenix.

vi. Address warrant for signalized light at Beryl Avenue.

A signal warrant analysis was completed at this study location, which did not meet the four or eight-hour signal warrants. The results of the analysis are shown the traffic impact analysis and are provided here as a summary:

Warranting Criteria	Total Volume Both Major Approaches	Volume Higher Side Street Approach	Minimum Warranting Threshold Criteria	Warrant Satisfied
Warrant 1 – Condition A	3,147	64 in eighth hour 86 in highest hour	140	NO
Warrant 1 – Condition B	3,147	64 in eighth hour 86 in highest hour	70	NO
Warrant 1 – Combo A & B	3,147	64 in eighth hour 86 in highest hour	112	NO
Warrant 2	3,147	73 in fourth hour 86 in highest hour	80	NO
Warrant 3	3,147	86	100	NO

A crash warrant has also been prepared since submittal of the traffic impact analysis. A crash warrant is satisfied when five or more accidents occur at a location AND the accidents can be correctible with a traffic signal. A summary of crashes for 2016 and 2017 are shown below. No accidents were noted in 2015.

Incident No	Vehicle	On Street	Intersecting Street	Travel Direction	Collision Manner	Unit Action
2017						
3214847	1	Tatum	Beryl	East	Left turn	Making Left Turn (out of west driveway)
	2	Tatum	Beryl	North	Left turn	Going Straight
3270439	1	Tatum	Beryl	North	Rear End	Going Straight
	2	Tatum	Beryl	North	Rear End	Going Straight
3286085	1	Tatum	Beryl	North	Rear to Rear	Going Straight
	2	Tatum	Beryl	North	Rear to Rear	Stopped in Traffic
	3	Tatum	Beryl	North	Rear to Rear	Stopped in Traffic
	4	Tatum	Beryl	North	Rear to Rear	Stopped in Traffic
3306399	1	Tatum	Beryl	North	Sideswipe Same Direction	Changing Lanes
	2	Tatum	Beryl	North	Sideswipe Same Direction	Going Straight
2016						
3125470	1	Tatum	Beryl	South	Left turn	Making Left Turn (into east driveway)
	2	Tatum	Beryl	North	Left turn	Going Straight
	3	Tatum	Beryl	West	Left turn	Stopped in Traffic (out of east driveway)
2015						
N/A						

Of the accidents noted above, four total crashed were reported in 2017 and one total crash was reported in 2016. The only crash correctable at Beryl with the installation of a traffic signal is noted in 2016. While one accident is noted from Beryl in 2017, it occurs from the Fry's driveway. The number of reported crashed does not exceed the minimum threshold for signal installation.

Since the peak hour, four-hour, eight-hour and crash warrant minimum threshold criteria were not surpassed, a signal/traffic light is not recommended at this site location. Discussions with the City of Phoenix also indicated that they would be hesitant to install a traffic signal at this location due to the alignment of driveways on the west side of Tatum Boulevard and that they would not install a traffic signal without meeting applicable warranting criteria.

vii. Further address parking/traffic from project into the Firebrand ranch neighborhood.

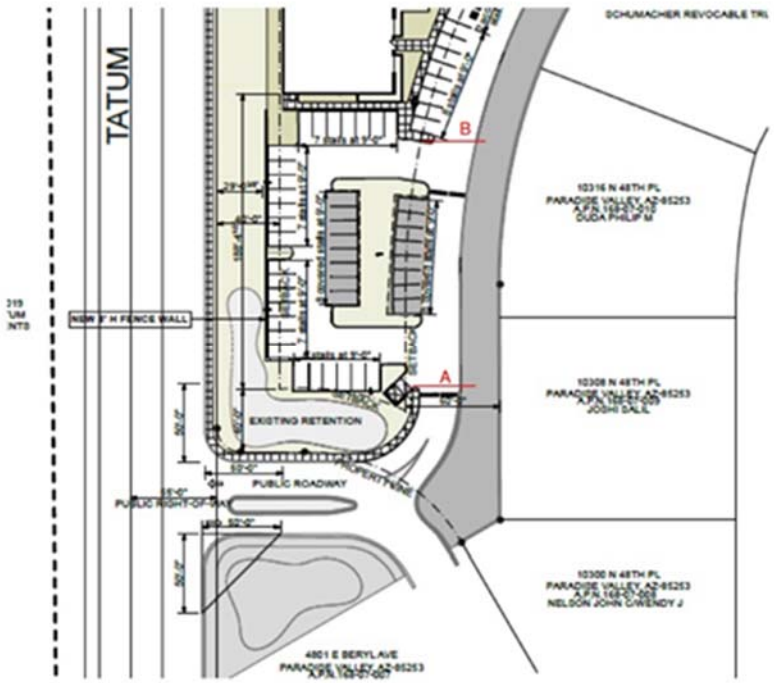
A trip generation was prepared for the number of homes located in Firebrand Ranch and compared to the number of trips counted in the existing condition. If there is cut through traffic today, it appears to be very minimal during the peak hours. An exhibit showing the trip generation and existing traffic has been attached. It is not anticipated that patrons for the proposed Mountain View Medical Center will utilize Beryl to park or cut through Firebrand Ranch.

A parking analysis was completed which accounted for the number of patrons per square foot for all occupied square footage at the time of the count. Increased parking adjustments were also made after speaking with the tenants about the increase in patrons in the late fall and early spring months. The parking rate calculated specifically for this site (based only on actual data from the existing occupied area) was applied to the new square footage to determine the parking need at full occupancy (100% occupied). The average occupancy rate for medical office range between 87% (Avison Young values as shown on their Quarterly Healthcare Market Report). Thus a 100% occupancy assumes a conservative value for parking.

The medical center will be providing more parking than required by the parking study thus exceeding the actual parking need.

viii. Address gating/restricting/removing the Beryl Avenue driveway access (include gating the Shea Blvd driveway). This point was brought up again. The analysis should provide the pros and cons, with the proposed approach.

The exhibit below is used for reference when discussing a gate located on the North Beryl alignment.



Gate

Pros – Gated North Beryl or Gated Shea

Traffic would not be able to enter the medical center at night, thus protecting the neighborhood from unwanted vehicles parking in the parking lot during non-typical working house.

Depending on the hours that gating occurs, traffic trying to enter the center would not be able to use the Beryl or Shea access to cut the corner of Tatum Boulevard and Shea Boulevard.

Cons – Gated North Beryl or Gated Shea

Tenants and patrons may experience difficulties with entering their place of business or visiting their doctor is scheduling occurs in non-typical hours. Gating could also cause additional U-turn movements, both internal at the existing Beryl turnaround, along Shea at the median cut or a Tatum using the northbound left turn lanes. These movements would have been efficiently distributed using the typical driving pattern but could be forced to use other options should the gates not allow access to the center.

If the gate is located in Position A, there is inadequate backup and turnaround space. The drive Isle isn't wide enough to accommodate a pedestal mounted card reader and allow two-way emergency vehicle access. This would require a half gate arm for the traffic going in the North direction and a set of in ground traffic control spikes in the South direction. This position also creates a conflict with the relocated trash enclosure.

If the gate is located in Position B, the drive Isle isn't wide enough to accommodate a pedestal mounted card reader and allow two-way emergency vehicle access. This would require a half gate arm for the traffic going in the north direction and a set of in ground traffic control spikes in the South direction. The employee parking area and long-term covered parking will become part of the default turnaround area. This may have the effect of non-employees or visitors parking in this this area and walking across the campus to their destination.

Removing the Beryl Avenue Driveway

Removing the Beryl Avenue Driveway would require the medical center to operate with one full access driveway located more closely to the intersection of Tatum Boulevard and Shea Boulevard. During the peak hours, full turn movements would be restricted at the northernmost driveway location due to the presence of queued vehicles. The U-turn potential will likely increase on Tatum Boulevard since …. and should Beryl remain for the residences, this would be the first location that a vehicle could turn in order to negotiate a U-turn and utilize the open driveway further north on Tatum. There would be no access to the south from the restricted access points – vehicles would have to utilized 50th Street to Mountain View Road in order to access Tatum southbound. Therefore, an increase in traffic on 50th Street and on Mountain View Road is anticipated with the restriction of the driveway.

Thank you for the opportunity to provide this information to the Town Council. Should you need any additional information please contact me at 480-659-4250.

Sincerely,

CivTech Inc.

Dawn Cartier
President

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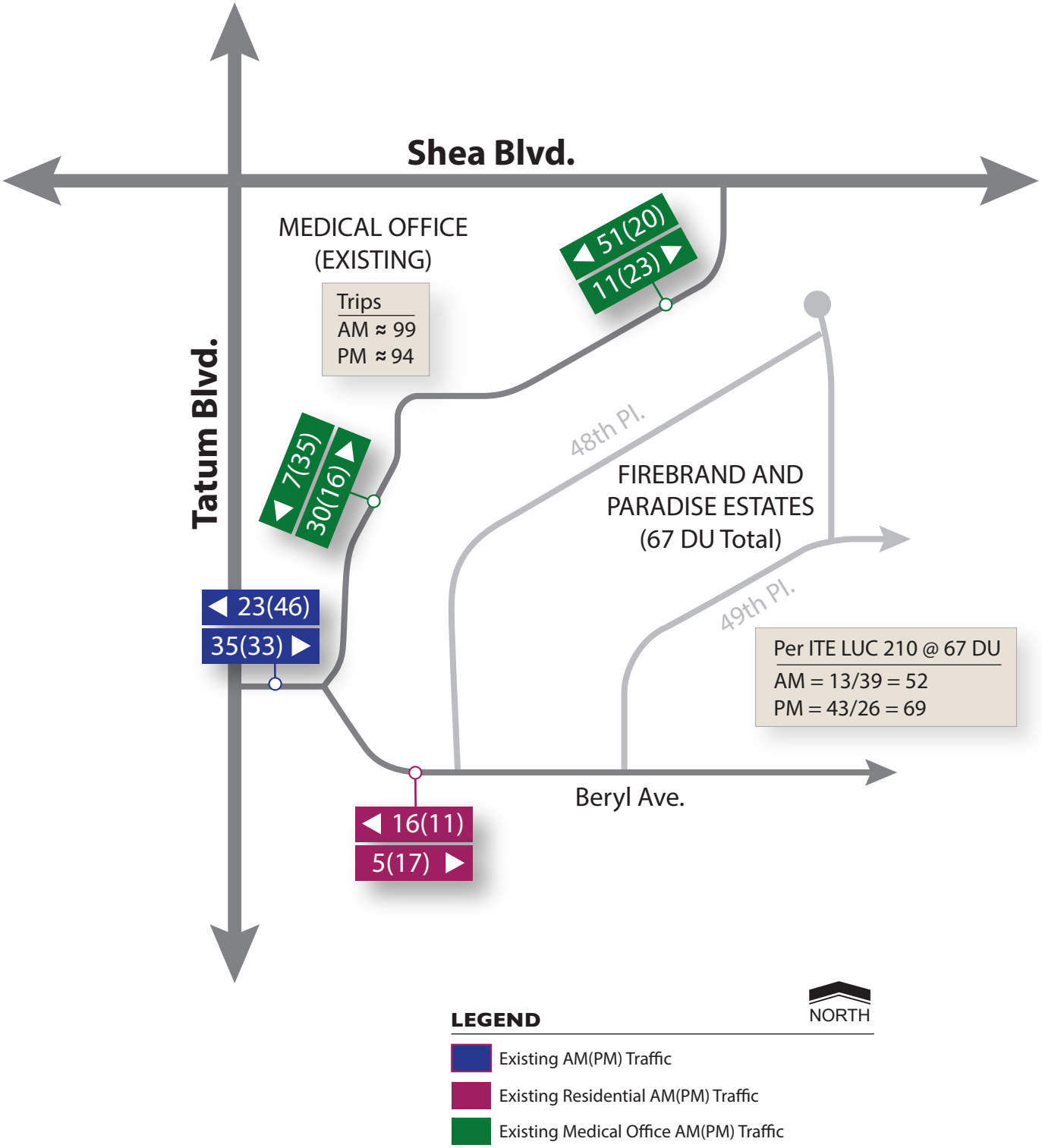
Shea Blvd.
Tatum Blvd.
MEDICAL OFFICE
(EXISTING)
Trips
AM ≈ 99
PM ≈ 94
51(20)
11(23)
7(35)
30(16)
48th Pl.
FIREBRAND AND
PARADISE ESTATES
(67 DU Total)
49th Pl.
23(46)
35(33)
Per ITE LUC 210 @ 67 DU
AM = 13/39 = 52
PM = 43/26 = 69
Beryl Ave.
16(11)
5(17)
NORTH
LEGEND
Existing AM(PM) Traffic
Existing Residential AM(PM) Traffic
Existing Medical Office AM(PM) Traffic

Exhibit A

2024 PM TOTAL - SIMTRAFFIC

	NB			SB			EB			WB			
Seed	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	**Overall**
1	41.1	17.3	4.0	6.6	10.3	5.0	11.4	11.4	0.4	4.4	42	1.8	46
2	37.1	17.5	4.7	8.3	11.6	4.1	8.6	11.1	0.4	4.0	32.2	0.9	33.4
3	43.7	22.1	5.47	9.2	10.4	3.6	7.6	12.2	0.4	9.0	77.2	5.8	68.4
Average Delay	**40.6**	**19.0**	**4.7**	**8.0**	**10.8**	**4.2**	**9.2**	**11.6**	**0.4**	**5.8**	**50.5**	**2.8**	**49.3**
LOS	**D**	**B**	**A**	**A**	**B**	**A**	**A**	**B**	**A**	**A**	**D**	**A**	**D**

LOS	Delay
A	≤ 10
B	>10.0 and ≤ 20.0
C	>20.0 and ≤ 35.0
D	>35.0 and ≤ 55.0
E	>55.0 and ≤ 80.0
F	> 80.0

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2024 PM TOTAL - SIMTRAFFIC 95TH QUEUE (FT)

	NB					SB					EB						WB					
Seed	L	L	T	T	TR	L	L	T	T	TR	L	L	T	T	T	R	L	L	T	T	T	R
1	282'	1,054'	1,210'	1,078'	699'	202'	272'	329'	304'	368'	262'	317'	468'	420'	254'	150'	143'	493'	885'	826'	720'	466'
2	280'	1,184'	1,127'	1,081'	641'	232'	290'	326'	307'	363'	243'	303'	377'	319'	243'	85'	135'	483'	785'	711'	573'	452'
3	286'	1,046'	1,189'	1,121'	839'	248'	285'	364'	306'	336'	228'	318'	413'	350'	280'	148'	141'	504'	1,057'	1,067'	1,112'	464'
Average Q (ft)	**283'**	**1,095'**	**1,175'**	**1,093'**	**726'**	**227'**	**282'**	**340'**	**306'**	**356'**	**244'**	**313'**	**419'**	**363'**	**259'**	**128'**	**140'**	**493'**	**909'**	**868'**	**802'**	**461'**
Existing Q (ft)	190'	350'	-	-	-	190'	320'	-	-	-	200'	300'	-	-	-	200'	275'	425'	-	-	-	240'

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2/21/2019 PM Peak Observed Initial Queue (veh)

Cycle	NB					SB					EB						WB					
	L	L	T	T	TR	L	L	T	T	TR	L	L	T	T	T	R	L	L	T	T	T	R
1	12	12	9	8	8	2	2	8	8	17	2	6	20	20	12	0	7	8	17	15	15	12
2	12	12	14	14	16	5	4	7	9	13	4	4	10	7	7	6	4	4	30	15	15	12
3	9	10	15	18	18	5	4	8	8	11	2	4	7	7	3	3	2	4	28	20	20	12
Average Vehicle Q	**11**	**11**	**13**	**13**	**14**	**4**	**3**	**8**	**8**	**14**	**3**	**5**	**12**	**11**	**7**	**3**	**4**	**5**	**25**	**17**	**17**	**12**
Q Length (25'/veh)	**275'**	**275'**	**325'**	**325'**	**350'**	**100'**	**75'**	**200'**	**200'**	**350'**	**75'**	**125'**	**300'**	**275'**	**175'**	**75'**	**100'**	**125'**	**625'**	**425'**	**425'**	**300'**

Paul Michaud

Subject: FW: Parking-Traffic - Mtn View Medical

From: Matthew Wilson <matthew.wilson@phoenix.gov>
Sent: Friday, February 1, 2019 8:32 AM
To: Derek Fancon <derek.fancon@phoenix.gov>; Paul Michaud <pmichaud@paradisevalleyaz.gov>
Cc: Paul Mood <pmood@paradisevalleyaz.gov>
Subject: RE: Parking-Traffic - Mtn View Medical

Gentlemen,

I apologize for our delayed response on these items. It has been a hectic week.

I've looked over the TIA and the expected impacts. I agree with the Town's additional points to include in the revised TIA. Unfortunately, I don't see much in the way of potential mitigation for this issue. I'm rather familiar with this intersection; I live quite close to here.

There is some nearby developer driven changes happening that might help this situation. On the NWC area of Shea, the Trader Joe's driveway is being realigned to the driveway out of Fry's with a new signal to be installed. This should alleviate the complex exiting movements from Fry's and help the Tatum NB left turns. We don't have a study associated with this, so it may be useful to have CivTech incorporate some of the revised traffic pattern.

My only other thought on the Phoenix side is to have CivTech submit recommended signal timing revisions to us. However, I expect our ops group has done their best with this location already.

Please feel free to give me a call to further discuss. Or let me know what else that I can provide.

With the thoroughness of the review you've asked the developer to conduct, I'm inclined to defer to your review regarding City approval. I can provide a letter to that effect, but I don't see any required stipulations from our end. But I'm more than happy to back up any stipulations you're pursuing.

Best regards,

Matt Wilson
602-262-7580

Mountain View Medical Center

Traffic Impact Analysis

Southeast Corner of Tatum Blvd.
and Shea Blvd.
Mountain View, Arizona

July 2018
Project No. 18-0850

Prepared For:

Stantec Consulting Services, Inc.
8211 South 48th Street
Phoenix, AZ 85044

For Submittal to:
Town of Paradise Valley

Prepared By:

CivTech
10605 North Hayden Road
Suite 140
Scottsdale, Arizona 85260
480-659-4250

MOUNTAIN VIEW MEDICAL CENTER REDEVELOPMENT
TRAFFIC IMPACT ANALYSIS

SEC of Tatum Boulevard and Shea Boulevard
Paradise Valley, Arizona

Prepared for:
Stantec Consulting Services, Inc.
8211 South 48th Street
Phoenix, AZ 85044

For Submittal to:

Town of Paradise Valley

Prepared By:

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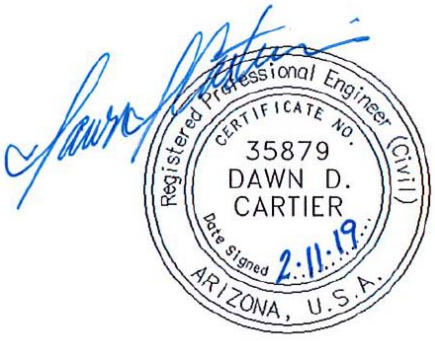

February 2019
CivTech Project No. 18-0850

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EXECUTIVE SUMMARY

The Mountain View Medical Center is located on the southeast corner of Tatum Boulevard and Shea Boulevard in Paradise Valley, Arizona. The existing medical center currently consists of ±59,969 gross square feet (SF) of medical office land use and is proposing a redevelopment to consist of ±91,318 net SF. The development provides three (3) existing access points.

CivTech has been retained by Stantec Consulting Services, Inc. to perform a traffic impact analysis (TIA) for the proposed redevelopment. The purpose of this report is to document projected traffic and any transportation impacts and needs of the proposed improvements on the surrounding streets, intersections and existing driveways.

The following conclusions and recommendations have been documented in this study.

- The redevelopment will be built out in three phases. Phase 1 consists of 18,697 SF medical use. Phase 2 adds 15,821 SF for a total of 34,518. Phase 3 adds 56,800 SF for the total of 91,318 SF.
- The redevelopment is anticipated to add approximately 1,204 daily trips to the roadway network, with 64 additional trips during the AM peak hour and 107 additional trips during the PM peak hour.
- The results of the existing conditions analysis summarized in **Table 2** indicates that all study intersections operate at overall LOS D or better with the exception of Tatum Boulevard & Shea Boulevard, Tatum Boulevard & Beryl Avenue/Tatum Corporate Center Driveway.
    - The intersection of ***Tatum Boulevard and Shea Boulevard*** is evaluated to operate at LOS E during the PM peak hour. This is due to high traffic volumes compared to its capacity, particularly the northbound left turn.
    - The intersection of ***Tatum Boulevard & Beryl Avenue/Tatum Corporate Center Driveway*** is evaluated to operate with delays in several movements during the PM peak hour. Poor levels of service during peak hours is not uncommon on side street approaches to major arterial roadways.
- The results of the proposed conditions analysis summarized in **Table 6** indicates that half of the study intersections operate at overall LOS D or better during the peak hours while the other half do not during one or more peak hours. Nearly all reported LOS with the proposed redevelopment are identical to their respective LOS without the redevelopment.
- During a work study session, several neighborhood concerns were expressed. A simulation model was prepared in response to the concerns to help address the issues of bus stops, queueing, and signalization in close proximity to the intersection of Tatum Boulevard and Shea Boulevard.

- The intersection of ***Tatum Boulevard and Shea Boulevard*** continues to operate with heavy delays during the PM peak hour due to high traffic volumes compared to its capacity, particularly the northbound left-turn. The delay of the intersection is aggregated with projected future growth. Any potential future mitigation is not considered the responsibility of the developer.

- To help mitigate future LOS it is suggested all U-turns be restricted at the intersection of Tatum Boulevard and Shea Boulevard to allow for signal optimization and reallocation of green time for each peak hour.

- Currently bus bays are not provided in or around the proposed site; busses stop in lane with an existing bus stop located 250-feet south of Beryl Road along Tatum Boulevard. It should also be noted that an existing bus stop currently exists along the northern sit frontage on Shea Boulevard approximately 240-feet east of Tatum Boulevard (from center). The simulation analysis shows that a bus frequency of 15-minute headways does not adversely effect delays for more than one signal cycle. Since the existing traffic patterns are not affected, additional bus stops/bays are not warranted along the Tatum Boulevard or Shea Boulevard site frontage. There may be other warranting criteria for the addition of bus bays such as the number of riders using each of these stops.

- The intersections of ***Tatum Boulevard & Fry's Driveway/Medical Center Driveway*** and ***Tatum Boulevard & Beryl Avenue/Tatum Corporate Center Driveway*** have projected delays in the build and no build scenario on their side street approach to the major street. Poor levels of service during peak hours are not uncommon on side street approaches to major arterial roadways. A signal warrant analysis was completed at this study location, which did not meet the four or eight-hour signal warrants. Therefore, a signal/traffic light is not recommended at this site location.

- The intersection of ***50th Street and Shea Boulevard*** has projected delays due to the westbound approach capacity. If the signal does not have pedestrian recall additional time can be allotted to the westbound approach, mitigating the projected delay.

- The development will utilize existing driveways and lane configurations. No changes to existing turn lanes are recommended as part of this development.

INTRODUCTION

The Mountain View Medical Center is located on the southeast corner of Tatum Boulevard and Shea Boulevard in Paradise Valley, Arizona. The 59,969 gross square feet (SF) of medical office land use is proposed for redevelopment to become approximately 91,318 net SF. The development provides three (3) existing access points along Tatum Boulevard and Shea Boulevard. A location map is provided in **Figure 1**.

This Transportation Impact Analysis (TIA) was completed in accordance with the standard criteria set forth by the Town of Paradise Valley's Guidelines dated May, 2015. A preliminary analysis indicated that a Category 1 TIA would be required for this project. This study analyzes the traffic impact due to the proposed improvements on the surrounding street network.

Study Area

The study area for a Category 1 study is defined as all major intersections and roadway segments within 1/4 mile of the site and all major driveways within 500 feet of the project site boundary. The following site intersection has been evaluated:

- Tatum Boulevard and Desert Cove Avenue
- Tatum Boulevard and Shea Boulevard
- Tatum Boulevard and Fry's Driveway (north)/Medical Center
- Tatum Boulevard and Beryl Avenue/Tatum Corporate Center Driveway (north)
- Tatum Boulevard and Gold Dust Avenue
- Medical Center Driveway and Beryl Avenue
- Albertson's Driveway/Medical Center and Shea Boulevard
- 50th Street and Shea Boulevard

Study Years

For study purposes, it is assumed that the opening year of the redevelopment will be 2019. A Category 1 study includes the analysis of opening year/Phase 1 (2019) and 5 years after opening/buildout (2024).

Considering the Phase 1 and Phase 2 combined square footage (34,518 SF) is less than that of the existing building (59,969 SF), and the land use is unchanged, the trips generated by completion of Phase 1 and Phase 2 are expected to be less than the existing conditions. The traffic impact for the opening year (Phase 1) is expected to be less than the existing conditions and analysis thereof is not necessary. For this reason, this analysis was limited to the 5th year with Phase 3/buildout (2024).

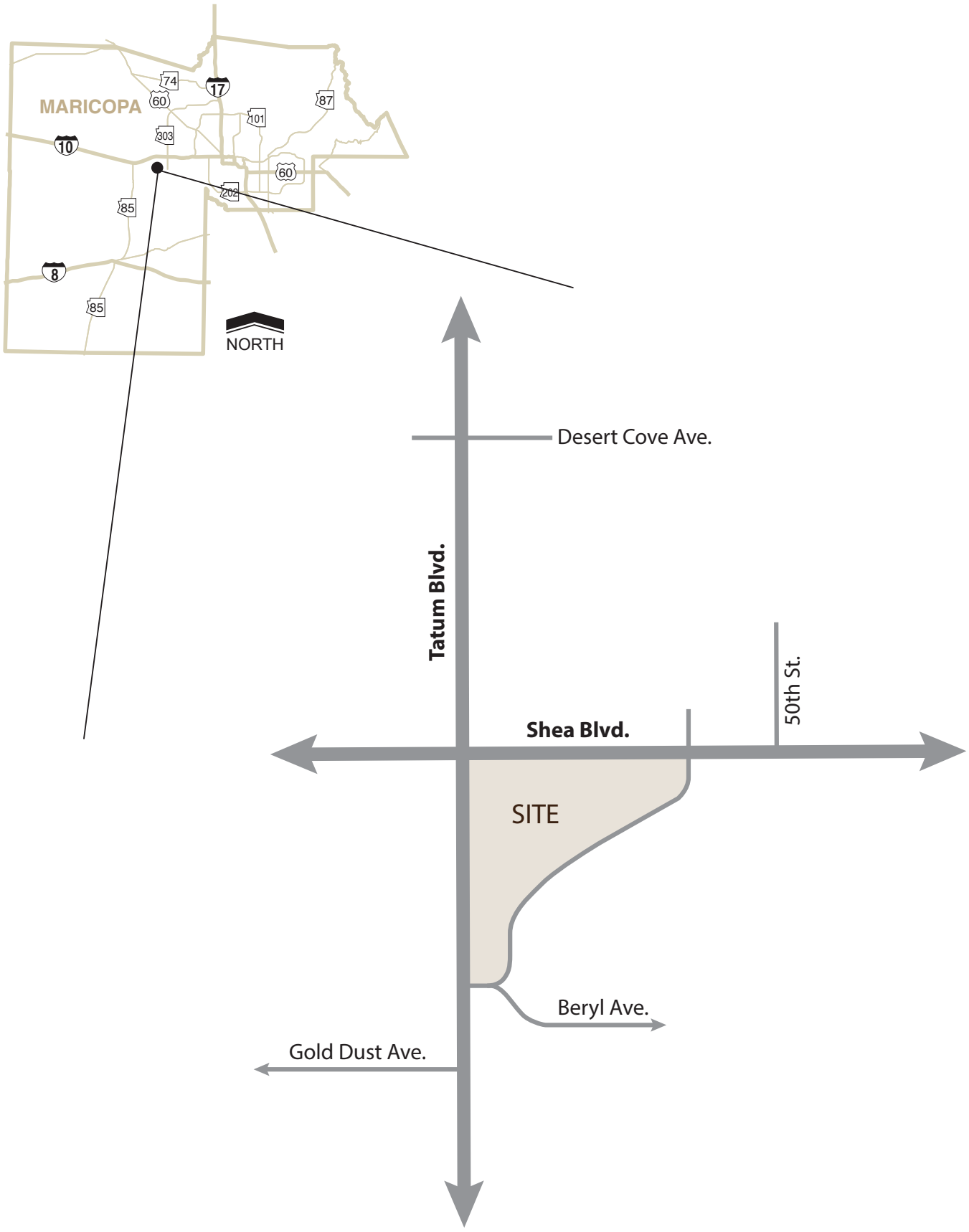


Figure 1: Vicinity Map

EXISTING CONDITIONS

The Mountain View Medical Center is located on the southeast corner of Tatum Boulevard and Shea Boulevard. The existing site encompasses approximately 10.16 net acres and consists of approximately 59,969 gross SF of medical land uses.

SURROUNDING LAND USE

North of the site is Paradise Village Gateway, a shopping center that encompasses approximately 30 acres and consists of a grocery store, coffee shops, restaurants and retail shops. South and east of the site are various neighborhoods with single-family homes. Directly west of the site is a Fry's Food Store.

ROADWAY NETWORK

The existing roadway network within the study area includes Tatum Boulevard, Shea Boulevard, Gold Dust Avenue, Beryl Avenue, Desert Cove Avenue and 50th Street.

Tatum Boulevard is a north/south six (6) lane roadway with three (3) lanes in each direction of travel, divided by a raised median north of Shea Boulevard and a two-way left-turn lane (TWLTL) south of Shea Boulevard. Tatum Boulevard is classified as a major arterial street by the City of Phoenix. Tatum Boulevard begins to the north at the intersection with Cave Creek Road and terminates to the south at the intersection with McDonald Dr. where it converts to 44th Street. The posted speed limit within the vicinity of the site is 40 mph.

Shea Boulevard is an east/west six (6) lane roadway with three (3) lanes in each direction of travel and a center raised median. Shea Boulevard is classified as a major arterial street by the City of Phoenix. Shea Boulevard begins to the west at the intersection with 24th street and terminates to the east at SR 87. Shea Boulevard provides access to SR 51, SR Loop 101 and SR 87. The posted speed limit within the vicinity of the site is 45 mph.

Gold Dust Avenue is an east/west (2) lane roadway with one (1) lane in each direction of travel and unmarked stripping within the vicinity of the site. The roadway is assumed to be a collector street. The segment of Gold Dust Avenue within the vicinity of the site begins at 44th Street and terminates ½-mile to the east at Tatum Boulevard. The posted speed limit within the vicinity of the site is 25 mph.

Beryl Avenue is a two (2) lane local street with (1) lane in each direction of travel and unmarked stripping within the vicinity of the site. The segment of Beryl Avenue within the vicinity of the site begins at Shea Boulevard and terminates ¾-mile east at 50th Place. Beryl Avenue serves as circulation for Mountain View Medical Center and the neighborhood adjacent to the Medical Center. The posted speed limit within the vicinity of the site is assumed to be 15 mph.

Desert Cove Avenue is a two (2) lane local street with one (1) lane in each direction of travel and unmarked stripping within the vicinity of the site. The segment of Desert Cove Avenue within the vicinity of the site begins east of Tatum Boulevard at the driveway off Paradise Valley Office Suites and terminates 0.35 miles to the west where it converts into 50th Street. Desert Cove Avenue serves as access to Paradise Village Gateway and various multi-family housing complexes. There is no posted speed limit within the vicinity of the site.

50th Street is a two (2) lane driveway with one (2) lane in each direction of travel and unmarked stripping within the vicinity of the site. The segment of 50th Street within the vicinity of the site is a 500 FT driveway that provides access to Paradise Village Gateway, Paradise Valley Plaza and a multi-family housing complex.

INTERSECTION CONFIGURATIONS AND TRAFFIC CONTROLS

The intersection of ***Tatum Boulevard and Desert Cove Avenue*** operates as signalized four-legged intersection with permitted left-turns on all approaches. The northbound and southbound approaches consist of one (1) exclusive left-turn lane, two (2) through lanes and one (1) shared through/right-turn lane. The eastbound and westbound approach consists of one (1) shared left/through/right-turn lane.

The intersection of ***Tatum Boulevard and Shea Boulevard*** operates as a signalized four-legged intersection with protected left turns on all approaches. The northbound and southbound approaches consist of dual left-turn lanes, two (2) through lanes and one (1) shared through/right-turn lane. The eastbound and westbound approach consist of dual left-turn lanes, three (3) through lanes and one (1) dedicated right-turn lane.

The intersection of ***Tatum Boulevard and Fry's Driveway (north)/Medical Center*** operates as a four-legged intersection with stop control on the eastbound and westbound approaches. The northbound approach consists of one (1) left turn lane, two (2) through lanes and one (1) shared through/right-turn lane. The southbound approach consists of three (3) through lanes and one (1) dedicated right-turn lane. Left-turns into the medical driveway are not allowed. The eastbound and westbound approaches consist of one (1) shared left/through/right-turn lane. Eastbound left-turns are not permitted between the hours of 2 PM and 6 PM.

The intersection of ***Tatum Boulevard and Beryl Avenue/Tatum Corporate Center Driveway (north)*** operates as a four-legged intersection with stop control on the eastbound and westbound approach. The northbound approach consists of a center two-way left-turn lane, two (2) through lanes and a 24 foot outside lane that has the width for both a through and a right turn lane. The southbound approach consists of a center two-way left-turn lane, two (2) through lanes and a through/right-turn lane. The eastbound and westbound approaches consist of one (1) shared left/through/right-turn lane.

The intersection of ***Tatum Boulevard and Gold Dust Avenue*** operates a "T" intersection with stop control in the eastbound approach. The northbound approach consists of a two-way left-turn lane and three (3) through lanes. The southbound approach consists of two (2) through lanes and one (1) dedicated right-turn lane. The eastbound approach consists of one (1) shared left/right-turn lane.

The intersection of ***Medical Center Driveway and Beryl Avenue*** operates as a "T" intersection with no posted stop control yet functions as a yield in the southbound approach. The southbound approach consists of one (1) right-turn lane. The eastbound approach consists of one (1) shared left-turn/through lane. The westbound approach consists of one (1) shared through/right-turn lane.

The intersection of ***Albertson's Driveway/Medical Center and Shea Boulevard*** operates as a four-legged intersection with stop control on the northbound and southbound approaches. The northbound and southbound approaches consist of one (1) restricted right-turn lane, with left-turn and through movements restricted by a median on Shea Boulevard. The eastbound approach consists of one (1) exclusive left-turn lane, two (2) through lanes and one (1) shared through/right-turn lane. The westbound approach consists of one (1) exclusive left-turn lane, three (3) through lanes, and one (1) dedicated right-turn lane.

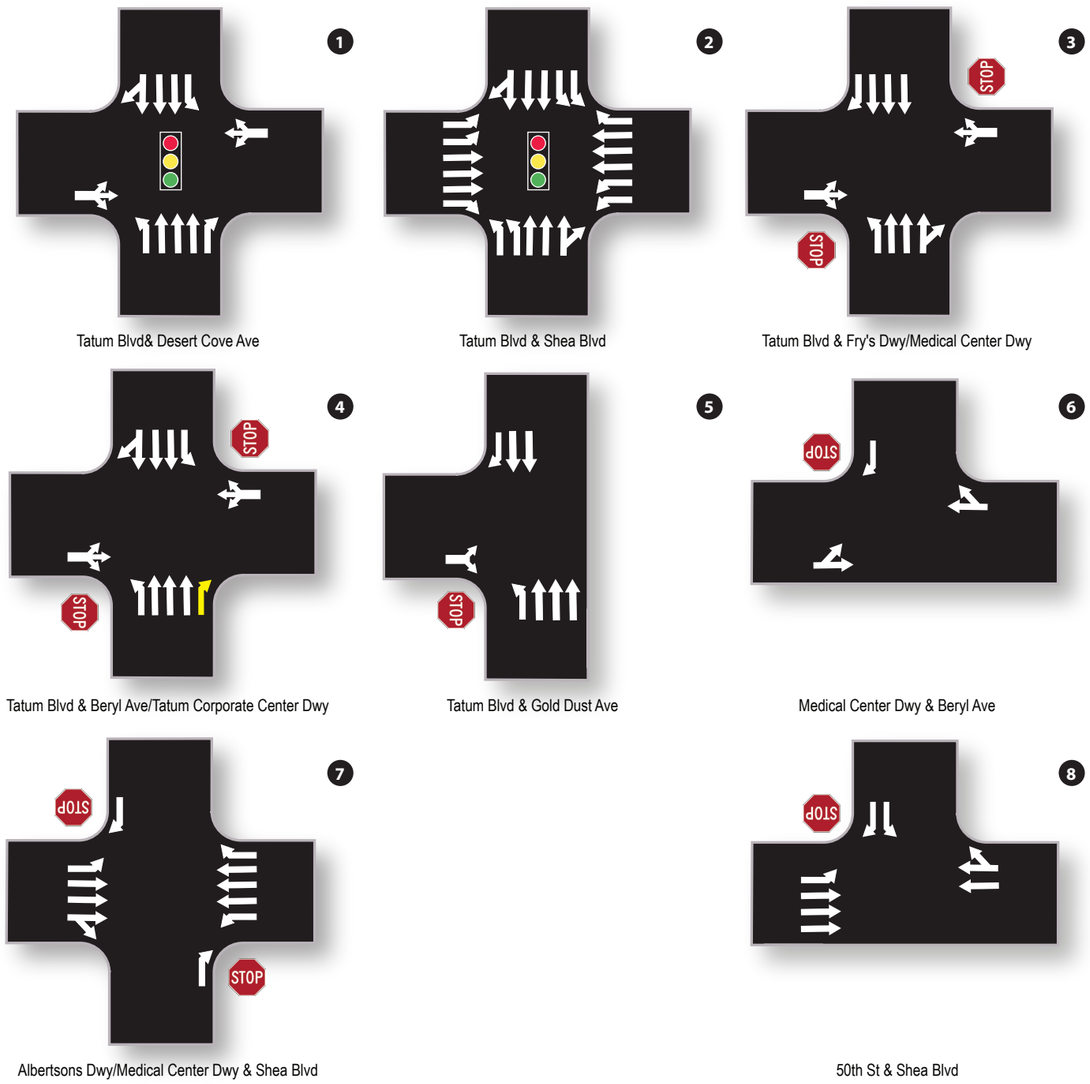
The intersection of ***50th Street and Shea Boulevard*** operates as a signalized "T" intersection with permitted left-turns on all approaches. The southbound approach consists of one (1) exclusive left-turn lane and one (1) dedicated right-turn lane. The eastbound approach consists of one (1) exclusive left-turn lane and three (3) through lanes. The westbound approach consists of one (1) through lane and one (1) shared through/right-turn lane.

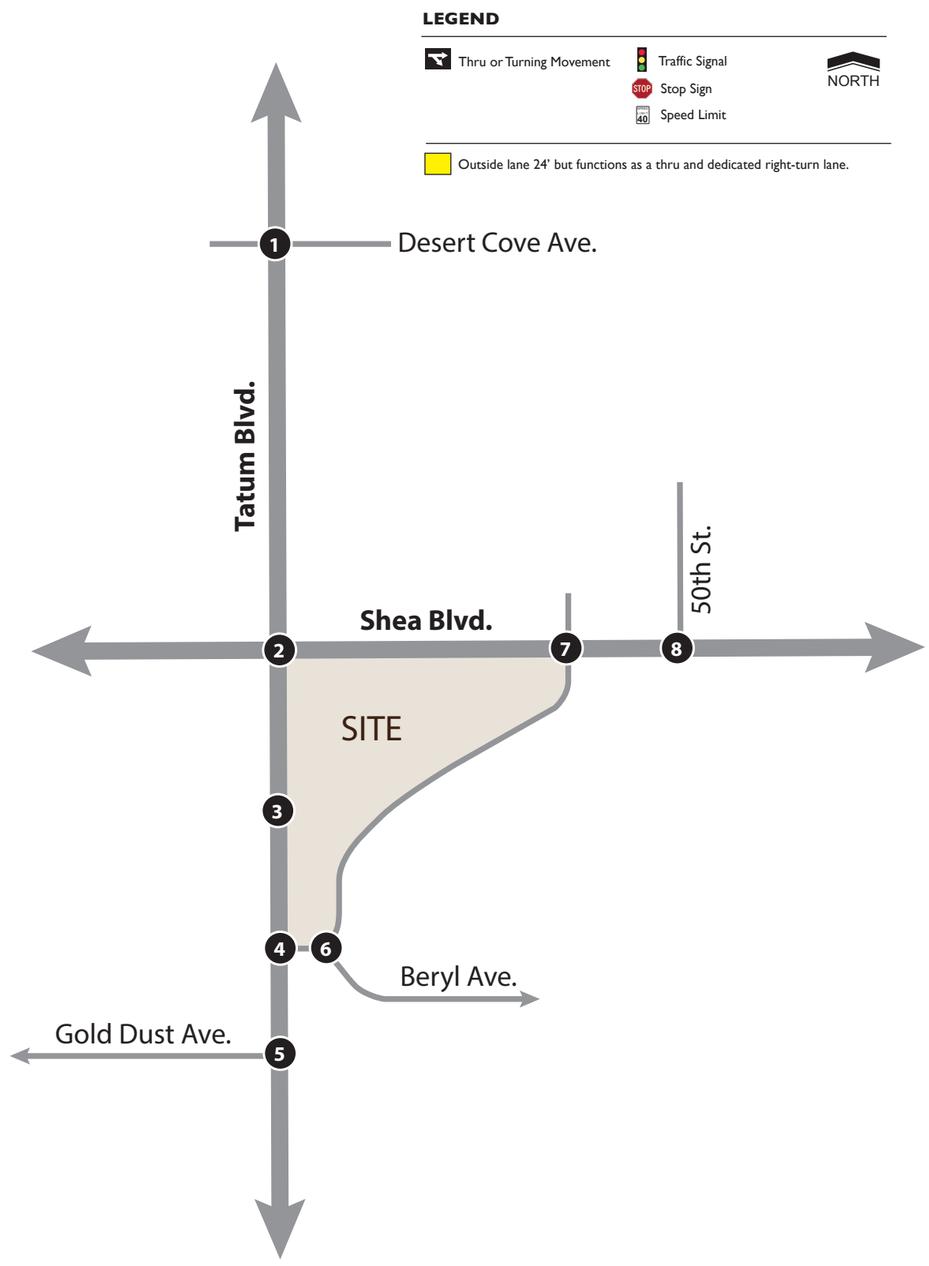
The existing lane configurations and traffic controls are illustrated **Figure 2**.

TRAFFIC VOLUMES

CivTech engaged Field Data Services of Arizona, Inc. to record traffic volumes at the proposed study intersections within the project vicinity. Peak hour volume turning movement counts were performed on either Tuesday, June 5, 2018 or Wednesday, June 6, 2018 from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM at the study intersections. Data sheets for the recorded volumes are provided in **Appendix B**.

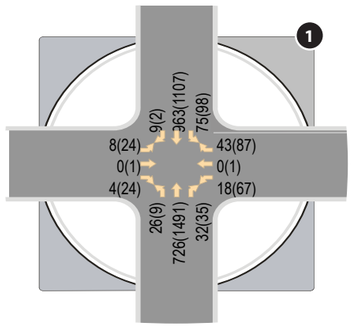
Since the existing volumes were collected in June during a time where the roadway is not at full capacity an adjustment factor was calculated. The City of Phoenix's adjustment factors (from ADT) are 0.99 for June and 0.99 for Tuesday. The seasonal adjustment factor to be applied is 1 / [monthly factor] / [weekday factor] = 1.020. An analysis using slightly older numbers considered a more conservative seasonal adjustment factor of 1.022. Existing traffic volumes were multiplied by 1.022. Also, the 59,969 gross SF of medical center was ninety percent occupied at the time the counts were conducted. To account for the vacancies, the existing volumes at the site driveways were adjusted. The adjusted existing traffic volumes for this study are illustrated in **Figure 3** for both AM and PM peak hours.



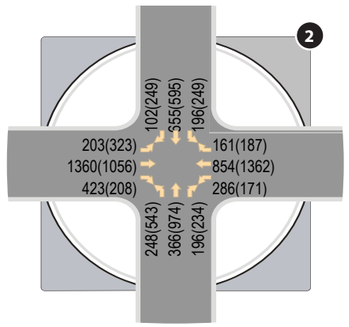


Source: CivTech 2018

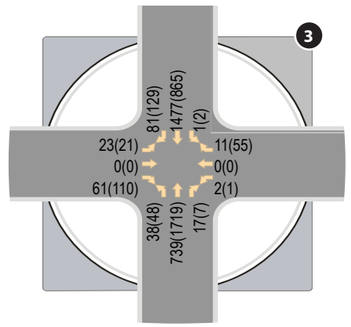
Figure 2: Existing Lane Configurations and Traffic Controls



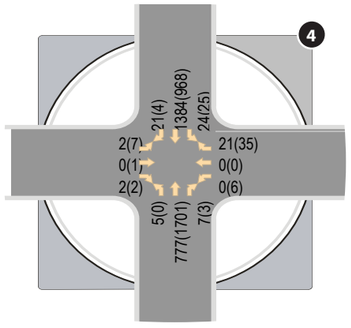
Tatum Blvd& Desert Cove Ave



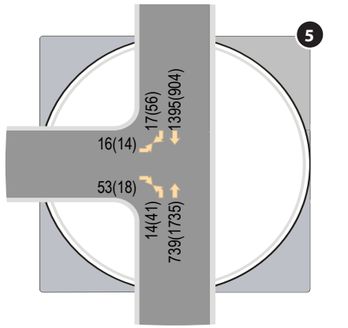
Tatum Blvd & Shea Blvd



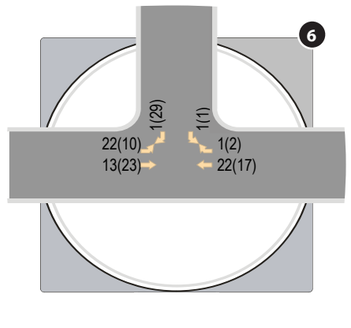
Tatum Blvd & Fry's Dwy/Medical Center Dwy



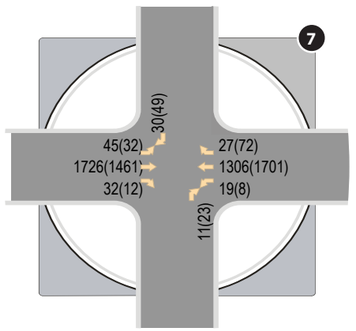
Tatum Blvd & Beryl Ave/Tatum Corporate Center Dwy



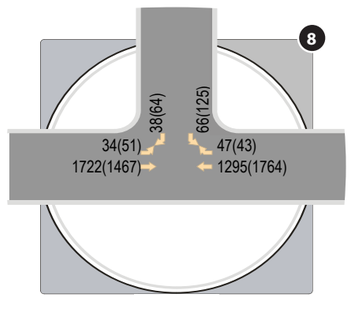
Tatum Blvd & Gold Dust Ave



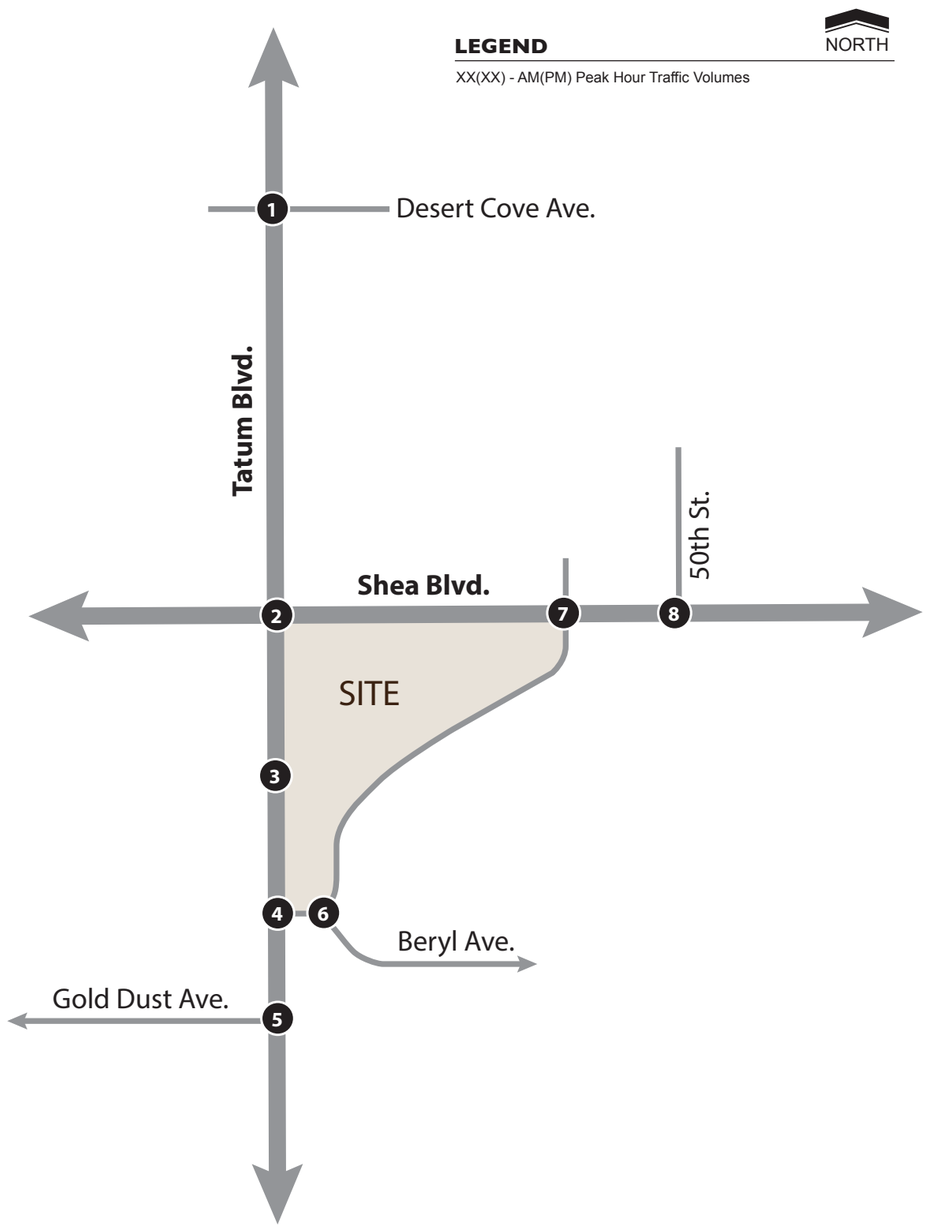
Medical Center Dwy & Beryl Ave



Albertsons Dwy/Medical Center Dwy & Shea Blvd



50th St & Shea Blvd



Source: CivTech 2018

Figure 3: Existing Traffic Volumes

It should be noted that the traffic counts recorded vehicles making illegal left turns at the intersection of Tatum Boulevard and Fry's Driveway/Medical Center Driveway. They were left in the analysis but were not grown for future conditions.

EXISITING CAPACITY ANALYSIS

Peak hour capacity analyses have been conducted for the study intersections based on existing intersection lane configurations and traffic volumes. All intersections have been analyzed using the methodologies presented in the Transportation Research Board's *Highway Capacity Manual* and using Synchro software.

The concept of level of service (LOS) uses qualitative measures that characterize operational conditions within the traffic stream. The individual levels of service are described by factors that include speed, travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations A through F, with LOS A representing the best operating conditions and LOS F the worst. Each level of service represents a range of operating conditions. Levels of service for intersections are defined in terms of delay ranges**. Table 1** lists the level of service criteria for signalized and unsignalized intersections, respectively.

Table 1 - Level of Service Criteria for Controlled Intersections

Level-of-Service	Unsignalized Control Delay (sec/veh)	Signalized Control Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80 (or v/c > 1)	> 50 (or v/c > 1)

Source: Exhibits 19-8, 20-2, 21-8, and 22-8, Highway Capacity Manual 2017

Synchro 10 software calculates the LOS per the HCM 6th edition methodology. Synchro analysis worksheets report individual movement delay/LOS and overall delay/LOS for signalized intersections; unsignalized intersection worksheets report the worst-case delay/LOS and the average overall intersection delay. Results of the existing level of service analyses are shown in **Table 2** for both AM and PM peak hours. The existing conditions analysis worksheets have been included in **Appendix C**.

Table 2 - Existing Peak Hour Levels of Service

ID	Intersection	Stop Control	Approach	LOS	
				AM	PM
1	Tatum Blvd. & Desert Cove Ave.	Signal	NB	C	B
			SB	C	B
			EB	B	C
			WB	B	C
			Overall	**C**	**B**
2	Tatum Blvd. & Shea Blvd	Signal	NB	E	E
			SB	E	D
			EB	D	D
			WB	D	F
			Overall	**D**	**E**
3	Tatum Blvd. & Fry's Dwy. /Medical Center Dwy.	2-way Stop (EB & WB)	NB Shared	B	B
			SB Shared	B	D
			EB Shared	C	B
			WB Shared	B	D
4	Tatum Blvd. & Beryl Ave. /Tatum Corporate Center Dwy.	2-way Stop (EB & WB)	NB Left	A	A
			SB Left	B	E
			EB Shared	C	F
			WB Shared	B	F
5	Tatum Blvd. & Gold Dust Ave.	1-way Stop (EB)	NB Left	A	A
			EB Shared	B	B
6	Medical Center Dwy. & Beryl Ave.	1-way Yield (SB)	SB Right	A	A
			EB Left	A	A
7	Albertson's Dwy. /Medical Center Dwy. & Shea Blvd.	2-way Stop (NB & SB)	EB Left	B	C
			WB Left	B	B
			NB Right	B	B
			SB Right	B	D
8	50th St. & Shea Blvd.	Signal	SB	C	C
			EB	C	C
			WB	C	E
			Overall	**C**	**D**

The results of the existing conditions analysis summarized in **Table 2** indicates that all study intersections operate at overall LOS D or better with the exception of Tatum Boulevard & Shea Boulevard, Tatum Boulevard & Beryl Avenue/Tatum Corporate Center Driveway.

The intersection of ***Tatum Boulevard and Shea Boulevard*** is evaluated to operate at LOS E during the PM peak hour. This is due to high traffic volumes compared to its capacity, particularly the northbound left turn.

The intersection of ***Tatum Boulevard & Beryl Avenue/Tatum Corporate Center Driveway*** is evaluated to operate with delays in several movements during the PM peak hour. Poor levels of service during peak hours is not uncommon on side street approaches to major arterial roadways.

PROPOSED IMPROVEMENTS

DESCRIPTION

The redevelopment will consist of three phases between opening year 2019 and horizon year 2024. The proposed medical center will be composed of 91,318 net SF once fully built out.

PHASING AND INTENSITY

The redevelopment will be built out in three phases. Phase 1 consists of 18,697 SF medical use. Phase 2 adds 15,821 SF for a total of 34,518. Phase 3 adds 56,800 SF for the total of 91,318 SF. Phase 1 is expected to open in 2019 and Phase 3 is anticipated to be completed by 2024.

SITE ACCESS

Access to the redeveloped building will be via the three (3) existing driveways listed below:

- Tatum Boulevard and Fry's Driveway (north)/ Medical Center
- Medical Center Driveway and Beryl Avenue
- Albertson's Driveway/Medical Center and Shea Boulevard

The driveways were previously described in the existing conditions section. The proposed site plan is displayed in **Figure 4**.

TRIP GENERATION

Generated trips were estimated for the proposed improvements at Mountain View Medical Center were estimated utilizing the data given in the latest (10th) edition of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual* and the methodology discussed in the ITE *Trip Generation Handbook, 3rd Edition.* The *Trip Generation Manual* report contains data collected by various transportation professionals for a wide range of different land uses. The data are summarized in the report and average rates and equations have been established that correlate the relationship between an independent variable that describes the development size and generated trips for each categorized land use. The report provides information for daily and peak hour trips.

The Mountain View Medical Center improvements include the redevelopment of an existing 59,969–SF medical office land use to 91,318–SF medical office land use. The trips generated by Mountain View Medical Center were estimated with land use code 720 (medical offices) as there are various uses for the offices tenants have occupied. **Table 3** shows the anticipated number of trips generated at full buildout. Detailed trip generation worksheets are included in **Appendix D**.

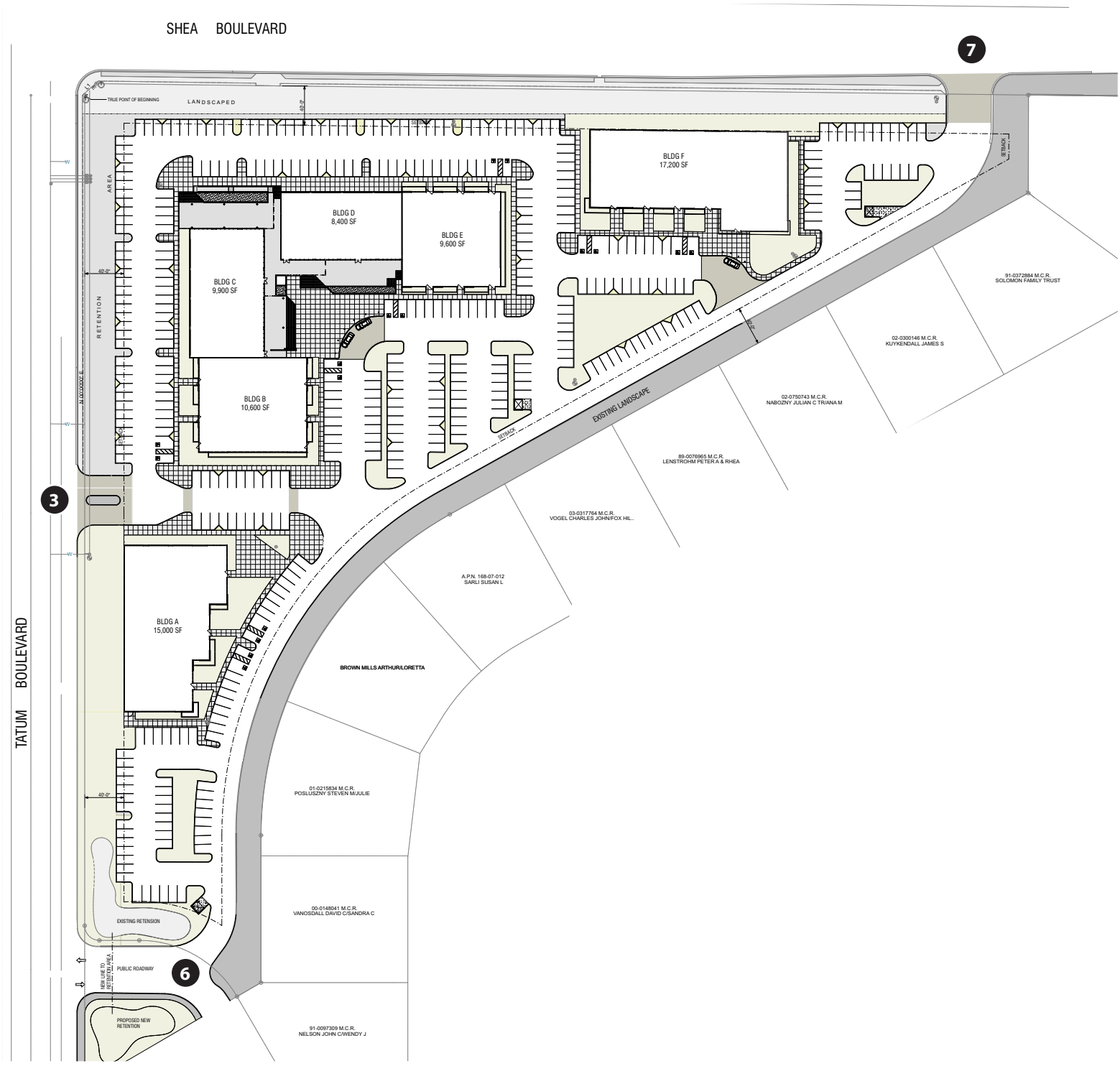


Figure 4: Site Plan and Access

Table 3 - Trip Generation Summary

Land Use	ITE Code	Size		Weekday Generated Trips						
				Daily	AM Peak Hour			PM Peak Hour		
		Quantity	Units	Total	Enter	Exit	Total	Enter	Exit	Total
Medical Offices	720	91.318	KSF	3,420	161	45	206	87	225	312

After full buildout, the proposed redevelopment is anticipated to generate 3,420 weekday daily trips, 206 trips during the AM peak hour and 312 trips during the PM peak hour.

Since the total square footage of the Mountain View Medical Center has increased, the total number of trips to/from the site is anticipated to increase. **Table 4** shows the net increase of trips generated by the proposed expansion/redevelopment.

Table 4 - Trip Generation Comparison

Land Use	ITE Code	Size		Weekday Generated Trips						
				Daily	AM Peak Hour			PM Peak Hour		
		Quantity	Units	Total	Enter	Exit	Total	Enter	Exit	Total
Medical Offices (new)	720	91.318	KSF	3,420	161	45	206	87	225	312
Medical Offices (existing)	720	59.969	KSF	2,216	111	31	142	57	148	205
New Trips Added				**1,204**	**50**	**14**	**64**	**30**	**77**	**107**

The redevelopment is anticipated to add approximately 1,204 daily trips to the roadway network, with 64 additional trips during the AM peak hour and 107 additional trips during the PM peak hour.

TRIP DISTRIBUTION AND ASSISGNMENT

It is expected that the residential development will generate trips based on future population within a 10-mile radius of the site. Future total population within a 10-mile radius of the site, as predicted by the 2020 socio-economic data compiled by the Maricopa Association of Governments (MAG), was used as a basis to estimate trip distribution for the residential development. The resulting trip distribution percentages for the study area are shown are summarized in **Table 5.**

Table 5 - Trip Distribution

Roadway (To/From)	Trip Distribution
Tatum Blvd (North)	13%
Tatum Blvd (South)	30%
Shea Boulevard (East)	12%
Shea Blvd (West)	42%
Gold Dust Ave (West)	3%
Total	**100%**

The percentages presented in **Table 5** are also depicted in **Figure 5** and were applied to the site trips generated to determine the AM and PM peak hour site traffic at the intersections within the study area. The resulting site generated traffic for the proposed development is presented in **Figure 6** for horizon year 2024.

FUTURE BACKGROUND TRAFFIC

CivTech utilized the 2015 and 2011 average daily traffic on Tatum Boulevard north of Shea Boulevard and on Shea Boulevard west of Tatum Boulevard as published by the Maricopa Association of Governments (MAG). The 2011 and 2015 volumes resulted in an average annual growth rate of 0.9 percent on Tatum Boulevard and 3.2 percent on Shea Boulevard. The average of the two growth rates (2.1 percent) was applied annually to the adjusted existing traffic counts to represent regional growth. This correlates to an expansion factor of 1.129 for horizon year 2024. The 2024 background peak hour traffic volumes are shown in **Figure 7**.

TOTAL TRAFFIC

Total traffic was determined by adding the site generated traffic and the projected background traffic. Total AM and PM peak hour traffic volumes are depicted in **Figure 8** for the horizon year.

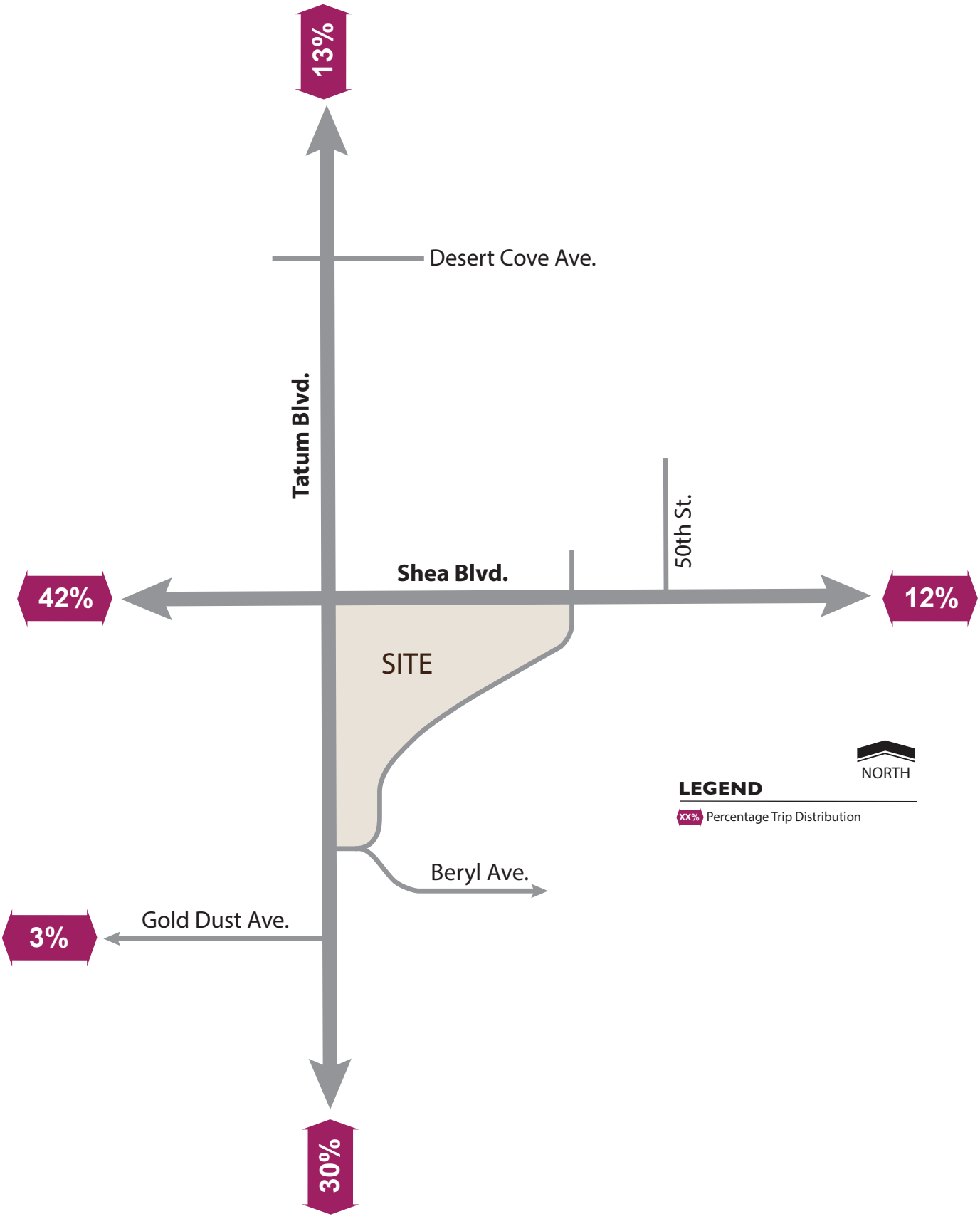
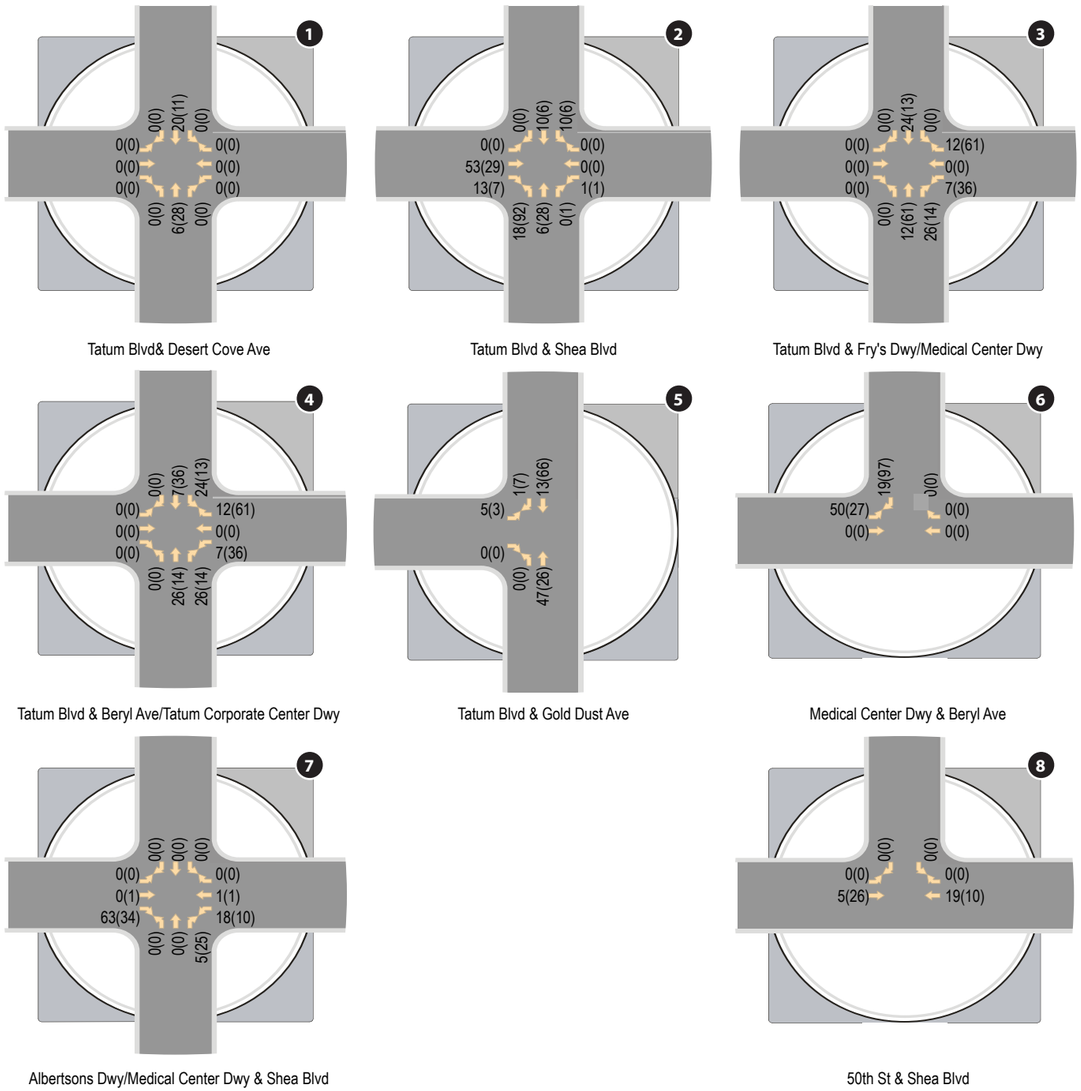
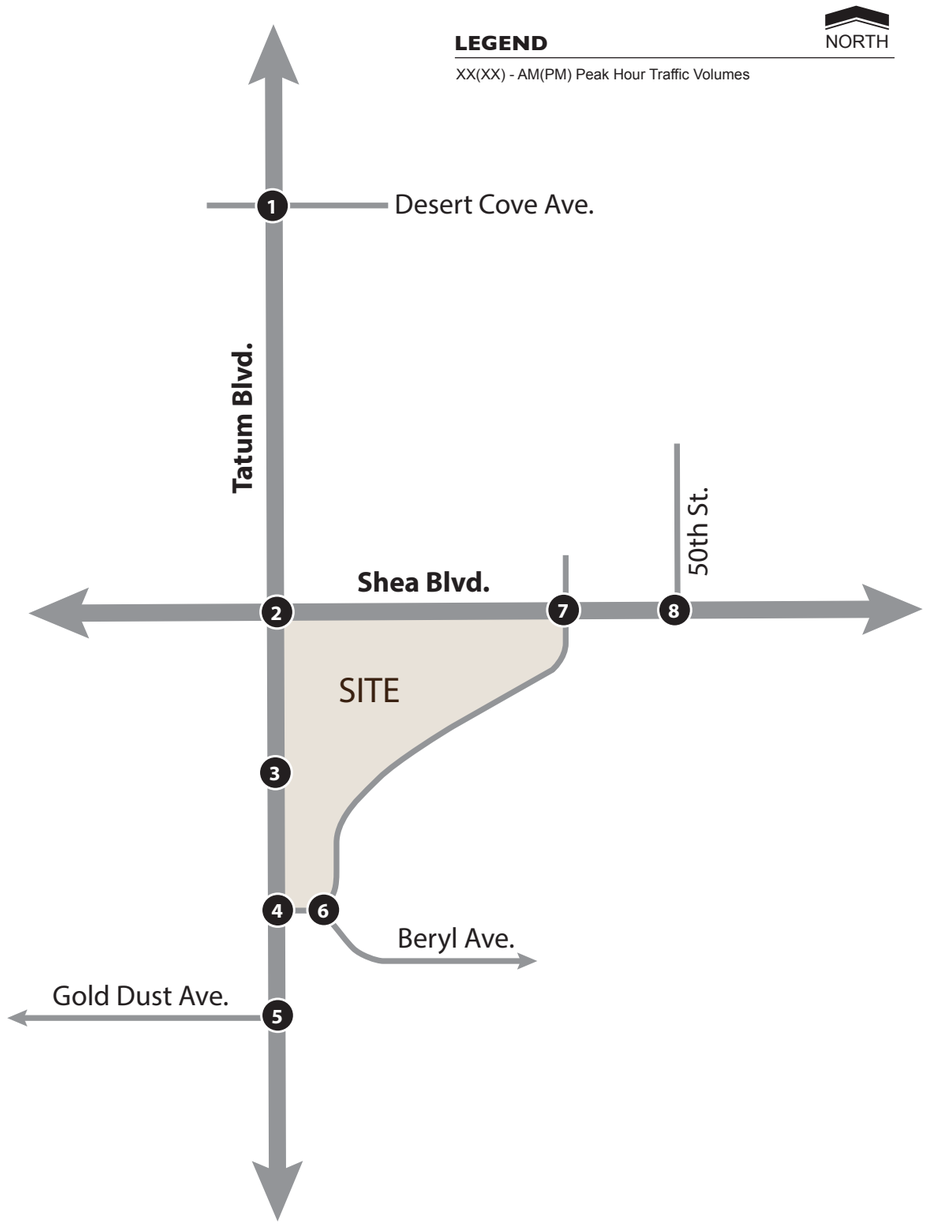


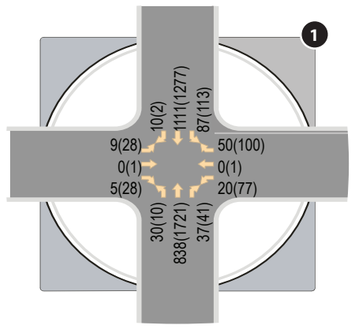
Figure 5: Vicinity Map



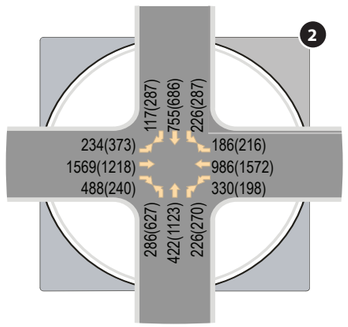


Source: CivTech 2018

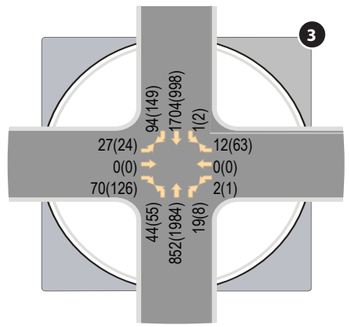
Figure 6: Site Generated Traffic Volumes



Tatum Blvd& Desert Cove Ave



Tatum Blvd & Shea Blvd



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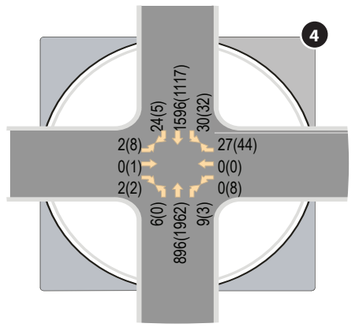

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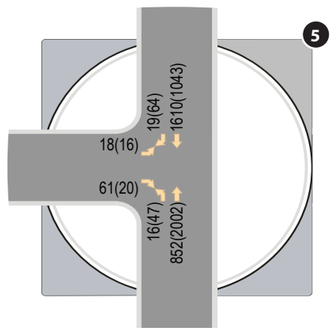
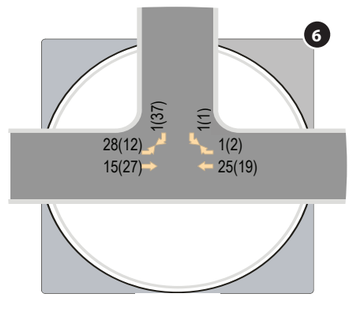


Tatum Blvd & Gold Dust Ave



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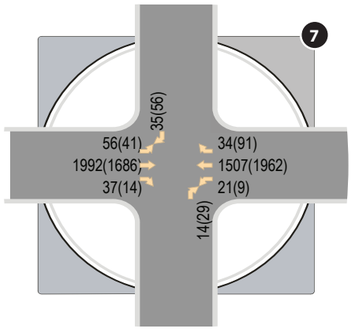
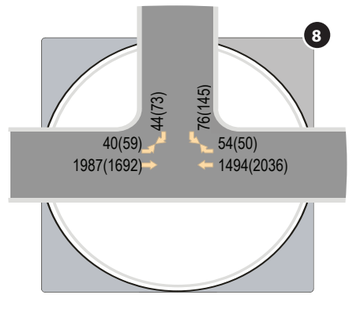
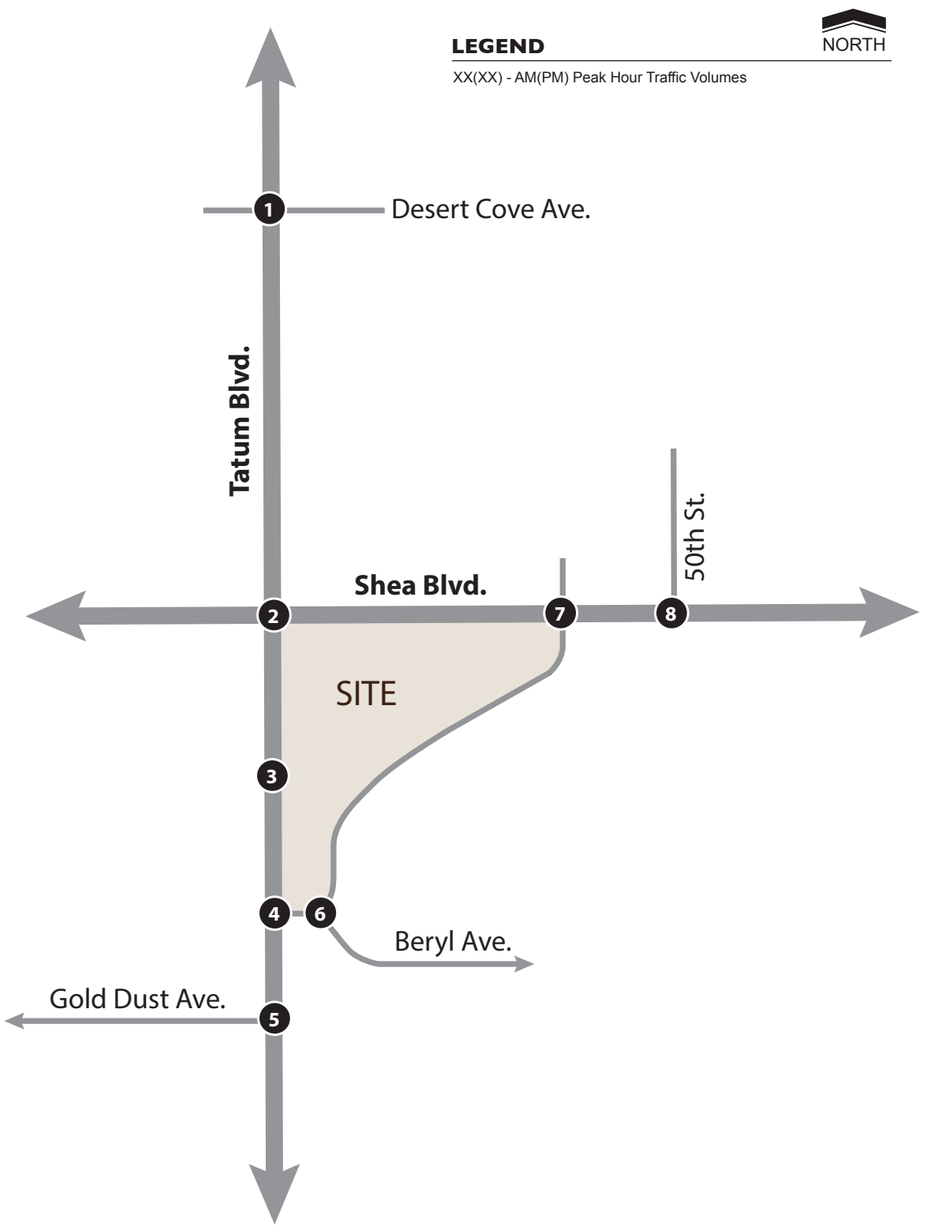


Albertsons Dwy/Medical Center Dwy & Shea Blvd

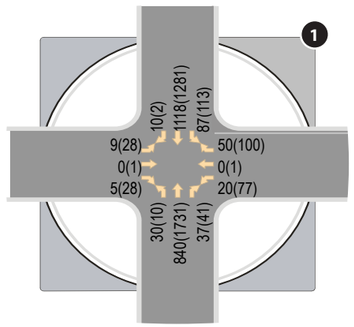


50th St & Shea Blvd

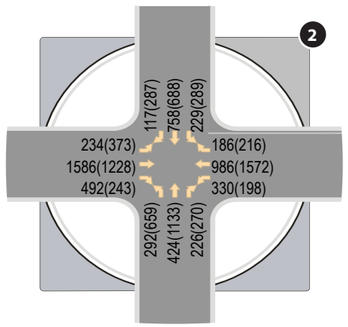


Source: CivTech 2018

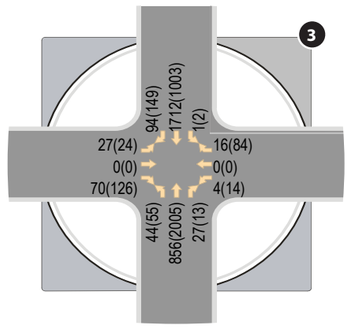
Figure 7: 2024 Background Traffic Volumes



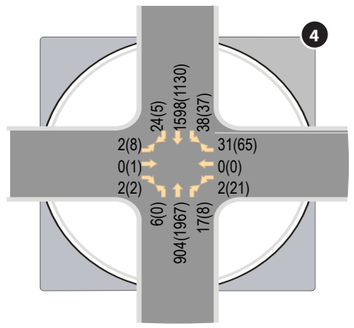
Tatum Blvd& Desert Cove Ave



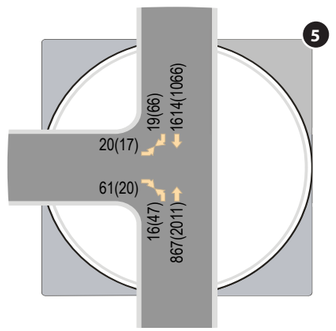
Tatum Blvd & Shea Blvd



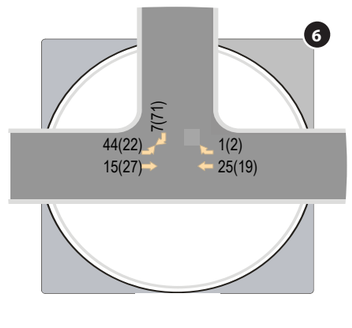
Tatum Blvd & Fry's Dwy/Medical Center Dwy



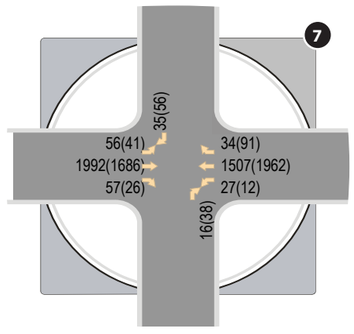
Tatum Blvd & Beryl Ave/Tatum Corporate Center Dwy



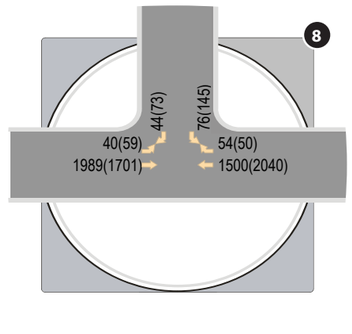
Tatum Blvd & Gold Dust Ave



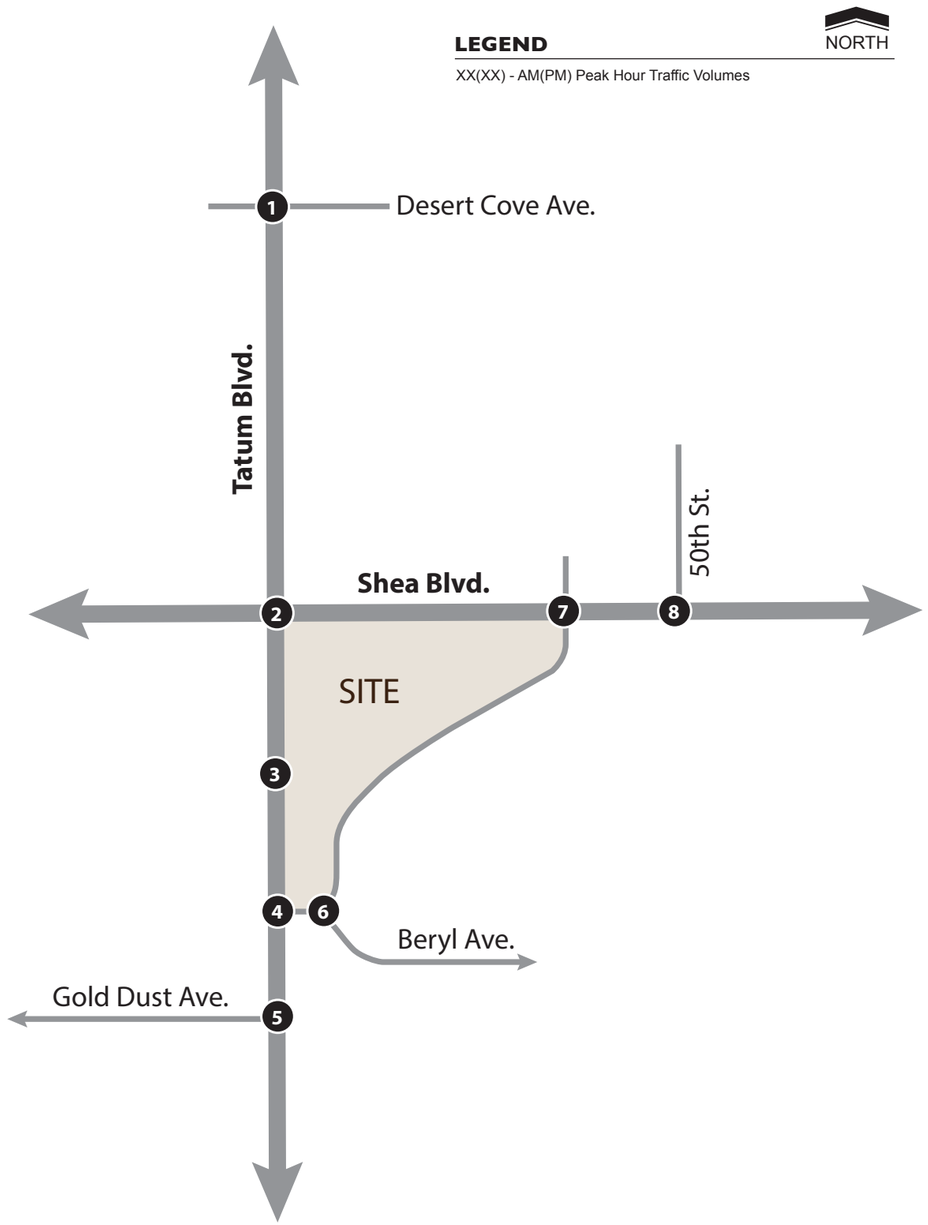
Medical Center Dwy & Beryl Ave



Albertsons Dwy/Medical Center Dwy & Shea Blvd



50th St & Shea Blvd



Source: CivTech 2018

Figure 8: 2024 Total Traffic Volumes

INTERSECTION CAPACITY ANALYSIS

The overall intersection and approach levels of service are summarized in **Table 5** for the 2024 background and total traffic conditions. Detailed analysis worksheets for 2024 analysis can be found in **Appendix F**.

Table 6 - Peak Hour Levels of Service

ID	Intersection	Stop Control	Approach	2024 AM (PM) LOS	
				No-Build	Build
1	Tatum Blvd. & Desert Cove Ave.	Signal	NB	C(B)	C(B)
			SB	C(B)	C(B)
			EB	B(C)	B(C)
			WB	B(C)	B(C)
			Overall	**C(B)**	**C(B)**
2	Tatum Blvd. & Shea Blvd	Signal	NB	E(F)	E(F)
			SB	E(E)	E(E)
			EB	D(E)	E(E)
			WB	D(F)	D(F)
			Overall	**D(F)**	**D(F)**
3	Tatum Blvd. & Fry's Dwy. /Medical Center Dwy.	2-way Stop (EB & WB)	NB Shared	B(B)	B(B)
			SB Thru/Right	B(E)	B(E)
			EB Shared	C(B)	C(B)
			WB Shared	B(E)	B(F)
4	Tatum Blvd. & Beryl Ave. /Tatum Corporate Center Dwy.	2-way Stop (EB & WB)	NB Left	B(A)	B(A)
			SB Left	C(F)	C(F)
			EB Shared	C(F)	C(F)
			WB Shared	B(F)	B(F)
5	Tatum Blvd. & Gold Dust Ave.	1-way Stop (EB)	NB Left	B(A)	B(A)
			EB Shared	C(C)	C(C)
6	Medical Center Dwy. & Beryl Ave.	1-way Yield (SB)	SB Right	A(A)	A(A)
			EB Left	A(A)	A(A)
7	Albertson's Dwy. /Medical Center Dwy. & Shea Blvd.	2-way Stop (NB & SB)	EB Left	B(C)	B(C)
			WB Left	B(B)	B(B)
			NB Right	B(B)	B(B)
			SB Right	B(D)	B(D)
8	50th St. & Shea Blvd.	Signal	SB	C(C)	C(C)
			EB	C(C)	C(C)
			WB	D(F)	D(F)
			Overall	**C(E)**	**C(E)**

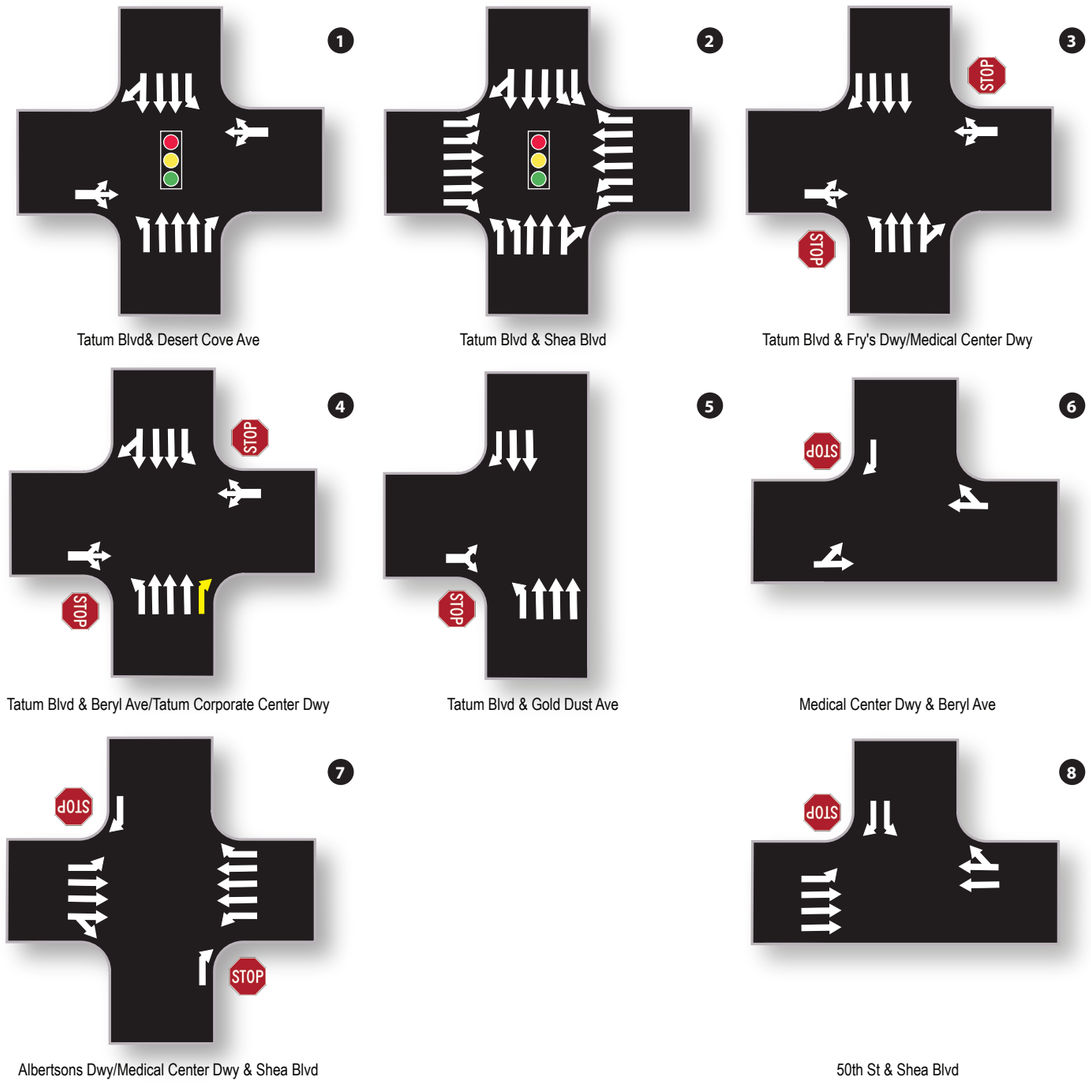
The results of the proposed conditions analysis summarized in **Table 6** indicates that half of the study intersections operate at overall LOS D or better during the peak hours while the other half do not during one or more peak hours. Nearly all reported LOS with the proposed redevelopment are identical to their respective LOS without the redevelopment.

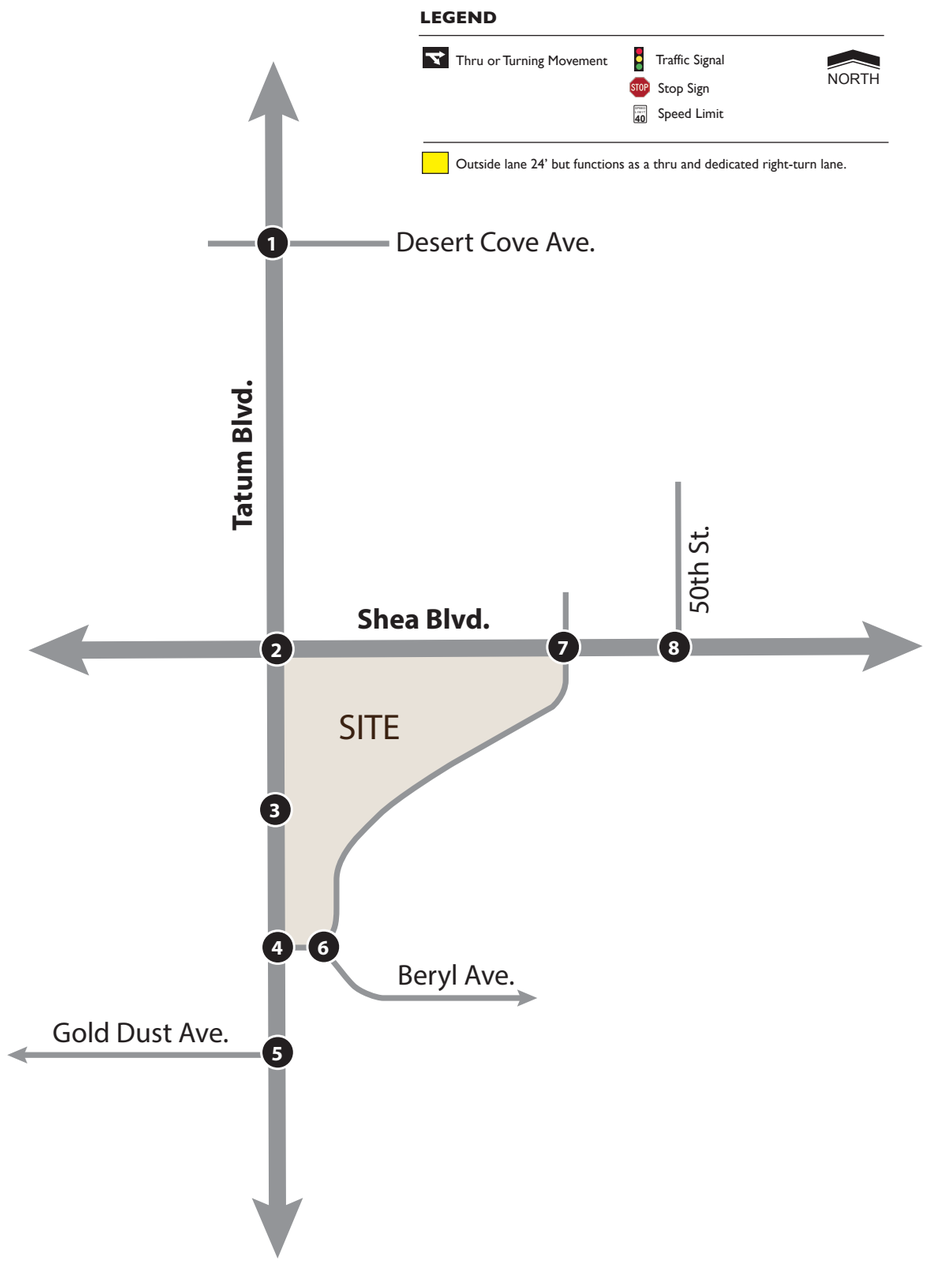
The intersection of ***Tatum Boulevard and Shea Boulevard*** continues to operate poorly during the PM peak hour due to high traffic volumes compared to its capacity, particularly the northbound left turn. The delay of the intersection is aggregated with projected future growth. Any potential future mitigation is not considered the responsibility of the developer.

The intersections of ***Tatum Boulevard & Fry's Driveway/Medical Center Driveway*** and ***Tatum Boulevard & Beryl Avenue/Tatum Corporate Center Driveway*** have projected delays in the build and no build scenario. Poor levels of service during peak hours is not uncommon on side street approaches to major arterial roadways. No further restrictions are recommended.

The intersection of ***50th Street and Shea Boulevard*** has projected delays due to the westbound approach capacity. If the signal does not have pedestrian recall additional time can be allotted to the westbound approach, mitigating the projected delay.

The proposed lane configuration and signal control is illustrated in **Figure 9**.





Source: CivTech 2018

Figure 9: Proposed Lane Configurations and Traffic Controls

TRAFFIC SIGNAL WARRANT ANALYSIS

In an effort to determine the need for traffic control signal at the intersection of Tatum Boulevard and Beryl Road, traffic signal warrant analyses were performed for the existing year traffic volumes as well as projected future volumes at this intersection.

The traffic signal warrant analyses were accomplished in accordance with standard traffic signal warranting criteria found in the *Manual on Uniform Traffic Control Devices, 2009 Edition* (MUTCD). The MUTCD describes eight conditions under which a traffic signal might be warranted, designated Warrants 1 through 8, and indicates that, "The investigation of the need for a traffic control signal shall include an analysis of the applicable factors contained in the [eight] traffic signal warrants and other factors related to existing operation and safety at the study location" while cautioning that, "The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal."

The MUTCD suggests that traffic control signals should not be installed unless one or more of the signal warrants are met. However, the satisfaction of a warrant or warrants is not in itself justification for a signal. Every situation is unique and warrant guidelines must be supplemented by the effects of specific site conditions and the application of good engineering judgment. Installation of a traffic signal should improve the overall safety and/or operation of an intersection and should be considered only when deemed necessary by careful traffic analysis and after less restrictive solutions have been attempted. It was these criteria to which the anticipated approach traffic volumes at the two (2) study intersections were compared to determine whether or not a traffic signal is currently warranted.

Warrant 1: Eight-Hour Vehicular Volume

The Eight-Hour Vehicular Volume Warrant is intended for locations where either of the following two conditions, or a combination of both, exist for each of any 8 hours of an average day and is, thus, the principal reason to consider the installation of a traffic signal: a large volume of intersecting traffic or traffic volumes so heavy on the major street that entering vehicles suffer extensive delay or conflict.

Condition A. Minimum Vehicular Volume

Condition A, the Minimum Vehicular Volume, is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal. The need for a traffic control signal shall be considered if the vehicles per hour given in both of the 100 percent columns of Condition A in **Table 4C-1** of the MUTCD (reproduced below) occur on the major-street and the higher-volume minor-street approaches, respectively, to the intersection for each of any 8 hours of an average day.

Condition B: Interruption of Continuous Traffic

Condition B, the Interruption of Continuous Traffic, is intended for application at locations where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street. The need for a traffic control signal shall be considered if the vehicles per hour given in both of the 100 percent columns of Condition B in **Table 4C-1** of the MUTCD occur on the major-street and the higher-volume minor-street approaches, respectively, to the intersection for each of any 8 hours of an average day.

Combination of Conditions A and B

The combination of Conditions A and B is intended for application at locations where Condition A is not satisfied and Condition B is not satisfied and should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. The need for a traffic control signal shall be considered if the vehicles per hour given in both of the 80 percent columns of Conditions A and Condition B in **Table 4C-1** of the MUTCD occur on the major-street and the higher-volume minor-street approaches, respectively, to the intersection for each of any 8 hours of an average day.

Table 7: MUTCD Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

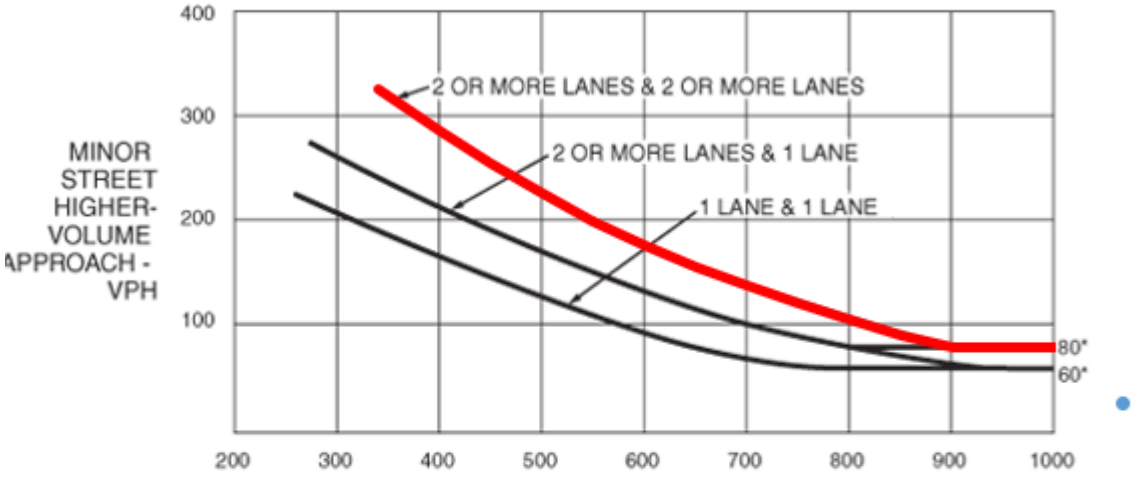
Condition A—Minimum Vehicular Volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1.....	1.....	500	400	350	280	150	120	105	84
2 or more...	1.....	600	480	420	336	150	120	105	84
2 or more...	2 or more ...	600	480	420	336	200	160	140	112
1.....	2 or more	500	400	350	280	200	160	140	112
Condition B— Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1.....	1.....	750	600	525	420	75	60	53	42
2 or more...	1.....	900	720	630	504	75	60	53	42
2 or more...	2 or more ...	900	720	630	504	100	80	70	56
1.....	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 70 km/h or exceeds 40 mph or in an isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70 km/h or exceeds 40 mph or in an isolated community with a population of less than 10,000.

Warrant 2: Four-Hour Vehicular Volume

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend	Major, both approaches	Minor, larger approach	Approximate Threshold for Minor
2024 AM Total	2,201	28	80
2024 PM Total	2,678	73	80
not used			
not used			

Signal Warrant 2 is met?

2024 AM Total	**No**
2024 PM Total	**No**

The Four-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal. The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach

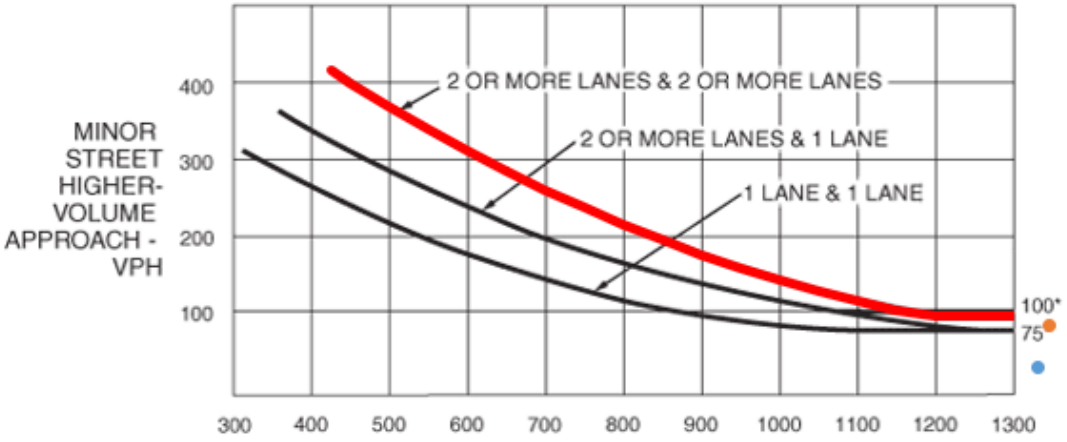
(one direction only) all fall above the applicable curve in Figure 4C-1 (this and all other referenced figures are attached) for the existing combination of approach lanes.

Since the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 70 km/h or exceeds 40 mph, Figure 4C-2 may be used in place of Figure 4C-1. Since the posted speed limit on Dove Valley Road is 35 mph and the design speed that is being considered is 40 mph, Figure 4C-2 was used.

Warrant 3: Peak-Hour

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend	Major, both approaches	Minor, larger approach	Approximate Threshold for Minor
2024 AM Total	2,587	33	100
2024 PM Total	3,147	86	100
not used			
not used			

Signal Warrant 3 is met?	
2024 AM Total	**No**
2024 PM Total	**No**

The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street. It shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.

The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:
    1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach; and
    2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and
    3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.
B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Category B was used to determine the relevance of the peak hour warrant for the study intersections.

If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 70 km/h or exceeds 40 mph, Figure 4C-4 may be used in place of Figure 4C-3 to satisfy the criteria in the second category of the Standard. Since the posted speed limit on Dove Valley Road is 35 mph and the design speed considered for this study is 40 mph, Figure 4C-4 was used.

Buildout year 2024 peak hour volumes were used as a basis for warranting a signal at the intersection of Tatum Boulevard and Beryl Road. This approach uses the same signal warrants previously stated with hourly adjustment factors used to convert the peak hour to approximate 24-hour approach volumes. A right-turn reduction factor was not utilized for this study to conservatively assess the need for a signal. As shown in the above graphics, volume thresholds are not anticipated to be met during study peak hours. Signalization of this intersection will therefore be evaluated in the “Intersection Capacity Analysis” section of this report. Worksheets used for signal warrant analysis at all study intersections are included in **Appendix G.**

QUEUING ANALYSIS

Right-Turn Declaration Lanes.

Per *The Town of Paradise Valley Traffic Impact Analysis Criteria, May 2015,* the need for a deceleration lane is determined with criteria. The proposed site conditions must meet a **minimum of three** of the following criteria:

1. At least 5,000 vehicles per day are using or are expected in the near future (five years after the development is build out) to be using the adjacent street.

2. The posted speed limit is 35 mph or the 85th percentile speed limit is greater than 35 mph.

3. At least 1,000 vehicles per day are using or are expected to use the driveways(s) for the development or adjacent developments(s) (existing of future).

4. At least 90 vehicles are expected to make right turns into the driveway(s) for a one-hour period for the development or adjacent developments (existing or future).

Table 8 - Right-Turn Lane Criteria

Intersection	Peak Period Right-turn Volume AM (PM)	Criteria Met?			
		Criteria 1	Criteria 2	Criteria 3	Criteria 4
Tatum Blvd & Fry's Dwy/Medical Center Dwy	NB – 27(13)	Yes	Yes	No	No
Tatum Blvd & Beryl Avenue	NB – 17(8)	Yes	Yes	No	No
Albertson's Dwy/Medical Center Dwy & Shea Blvd	EB – 57(26)	Yes	Yes	No	No

Turn Lane Storage

Adequate turn storage should be supplied on any approach where turn lanes are permitted and/or warranted. A queuing analysis was prepared according to the methodology documented in *AASHTO's A Policy on Geometric Design of Highways and Streets*. The study intersections were analyzed to determine the left-turn and right-turn storage needed to accommodate the expected traffic volumes in the 2024 horizon year.

The storage length for a turn lane is typically estimated as the length required to hold the average number of arriving vehicles per one and one-half minutes, where unsignalized, or per two signal cycles, where signalized.[1] The formulas used for the calculations are shown below, and the resulting turn lane storage requirements for the

[1] The American Association of Highway and Transportation Officials on pages 718-719 of its publication, *Geometric Design of Highways and Streets* ("AASHTO Green Book"), indicates that storage length for a turn lane, exclusive of taper, "should usually be based on one and one-half to two times the average number of vehicles that would store per cycle" at a signalized intersection.

study intersections are summarized in **Table 8** on the following page. A detailed worksheet is included in **Appendix H**.

For signalized intersections, storage length is determined by the following formula:

Storage Length = [1.5 x (veh/hr)/(cycles/hr)] x 25 feet

For unsignalized intersections, storage length is determined by the following formula:

Storage Length = [(veh/hr)/(30 periods/hr)] x 25 feet

Table 9 – Turn Lane Queue Storage

ID	Intersection	Intersection Control	Movement	2024 Queue Storage		
				Existing(1)	AASHTO	Recommended
1	Tatum Blvd. & Desert Cove Ave.	Signal	NB Left SB Left NB Right	100’ 135’ 150’	50’ 125’ 50’	100’ 135’ 150’
2	Tatum Blvd. & Shea Blvd	Signal	NB Left SB Left EB Left WB Left EB Right WB Right	190’(2) 195’(2) 195’(2) 275’(2) 195’ 245’	525’(2) 225’(2) 275’(2) 250’(2) 725’ 325’	190’(2)(3)(4)(5) 195’(2)(3)(4) 195’(2)(3)(4) 275’ 195’(3)(6) 245’(3)(6)
3	Tatum Blvd. & Fry’s Dwy. /Medical Center Dwy.	2-way Stop (EB & WB)	NB Left SB Right	105’ 150’	50’ 125’	105’ 150’
4	Tatum Blvd. & Beryl Ave. /Tatum Corporate Center Dwy.	2-way Stop (EB & WB)	NB Left SB Left SB Right	TWLTL TWLTL 245’	25’ 50’ 25’	TWLTL TWLTL 245’
5	Tatum Blvd. & Gold Dust Ave.	1-way Stop (EB)	NB Left SB Right	TWLTL 245’	50’ 75’	TWLTL 245’
7	Albertson’s Dwy. /Medical Center Dwy. & Shea Blvd.	2-way Stop (NB & SB)	EB Left WB Left EB Right	115’ 195’ 155’	50’ 50’ 100’	115’ 195’ 155’
8	50th St. & Shea Blvd.	Signal	EB Left SB Right SB Left	95’ 75’ 75’	75’ 100’ 200’	95’ 75’ 75’

(1) Measured from stop bar using Google Earth
(2) Dual left-turn lanes
(3) Developer does not propose modifying this lane.
(4) The width of the dual turn lane allows additional storage within the gap.
(5) Street is dashed 245’ to indicate a queuing lane prior to the solid striped dual turn lanes.
(6) Storage may be decreased for right turns do to less conflict during green phase and right turn on red.

The development will utilize existing driveways and lane configurations. No changes to existing turn lanes are recommended as part of this development.

CONCLUSIONS

The following conclusions and recommendations have been documented in this study:

- The redevelopment will be built out in three phases. Phase 1 consists of 18,697 SF medical use. Phase 2 adds 15,821 SF for a total of 34,518. Phase 3 adds 56,800 SF for the total of 91,318 SF.
- The redevelopment is anticipated to add approximately 1,204 daily trips to the roadway network, with 64 additional trips during the AM peak hour and 107 additional trips during the PM peak hour.
- The results of the existing conditions analysis summarized in **Table 2** indicates that all study intersections operate at overall LOS D or better with the exception of Tatum Boulevard & Shea Boulevard, Tatum Boulevard & Beryl Avenue/Tatum Corporate Center Driveway.
    - The intersection of ***Tatum Boulevard and Shea Boulevard*** is evaluated to operate at LOS E during the PM peak hour. This is due to high traffic volumes compared to its capacity, particularly the northbound left turn.
    - The intersection of ***Tatum Boulevard & Beryl Avenue/Tatum Corporate Center Driveway*** is evaluated to operate with delays in several movements during the PM peak hour. Poor levels of service during peak hours is not uncommon on side street approaches to major arterial roadways.
- The results of the proposed conditions analysis summarized in **Table 6** indicates that half of the study intersections operate at overall LOS D or better during the peak hours while the other half do not during one or more peak hours. Nearly all reported LOS with the proposed redevelopment are identical to their respective LOS without the redevelopment.
- During a work study session, several neighborhood concerns were expressed. A simulation model was prepared in response to the concerns to help address the issues of bus stops, queueing, and signalization in close proximity to the intersection of Tatum Boulevard and Shea Boulevard.
    - The intersection of ***Tatum Boulevard and Shea Boulevard*** continues to operate with heavy delays during the PM peak hour due to high traffic volumes compared to its capacity, particularly the northbound left-turn. The delay of the intersection is aggregated with projected future growth. Any potential future mitigation is not considered the responsibility of the developer.
    - To help mitigate future LOS it is suggested all U-turns be restricted at the intersection of Tatum Boulevard and Shea Boulevard to allow for signal optimization and reallocation of green time for each peak hour.

- Currently bus bays are not provided in or around the proposed site; busses stop in lane with an existing bus stop located 250-feet south of Beryl Road along Tatum Boulevard. It should also be noted that an existing bus stop currently exists along the northern sit frontage on Shea Boulevard approximately 240-feet east of Tatum Boulevard (from center). The simulation analysis shows that a bus frequency of 15-minute headways does not adversely effect delays for more than one signal cycle. Since the existing traffic patterns are not affected, additional bus stops/bays are not warranted along the Tatum Boulevard or Shea Boulevard site frontage. There may be other warranting criteria for the addition of bus bays such as the number of riders using each of these stops.

- The intersections of ***Tatum Boulevard & Fry's Driveway/Medical Center Driveway*** and ***Tatum Boulevard & Beryl Avenue/Tatum Corporate Center Driveway*** have projected delays in the build and no build scenario on their side street approach to the major street. Poor levels of service during peak hours are not uncommon on side street approaches to major arterial roadways. A signal warrant analysis was completed at this study location, which did not meet the four or eight-hour signal warrants. Therefore, a signal/traffic light is not recommended at this site location.

- The intersection of ***50th Street and Shea Boulevard*** has projected delays due to the westbound approach capacity. If the signal does not have pedestrian recall additional time can be allotted to the westbound approach, mitigating the projected delay.

- The development will utilize existing driveways and lane configurations. No changes to existing turn lanes are recommended as part of this development.

LIST OF REFERENCES

A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, Washington, D.C., 2011.

Design and Safety of Pedestrian Facilities, Institute of Transportation Engineers, Washington, D.C., March 1998.

Highway Capacity Manual. Transportation Research Board, National Research Council, Washington, D.C., 2010.

Manual on Uniform Traffic Control Devices. U.S. Department of Transportation, Federal Highways Administration, Washington, D.C., 2009.

Trip Generation Manual, 10th Edition, Institute of Transportation Engineers, Washington, D.C., 2016.

Trip Generation Handbook, 3rd Edition, Institute of Transportation Engineers, Washington, D.C., 2016.

Traffic Impact Analysis (TIA) Criteria, Town of Paradise Valley, 2015.

TECHNICAL APPENDIX

APPENDIX A

REVIEW COMMENTS AND RESPONSES
(RESERVED)

APPENDIX B

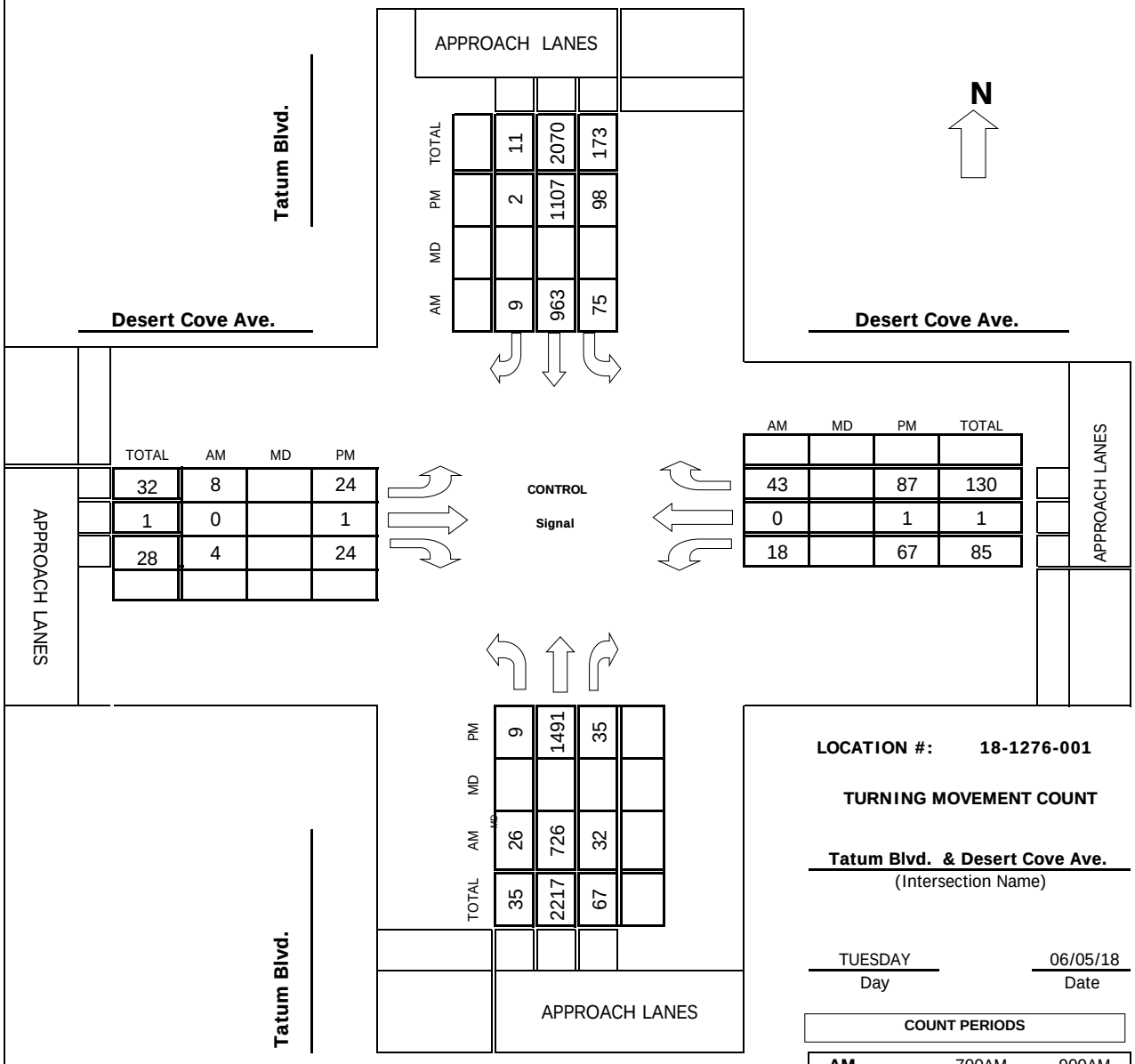
EXISTING TRAFFIC COUNTS

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 18-1276-001

TMC SUMMARY OF Tatum Blvd. & Desert Cove Ave.



LOCATION #: 18-1276-001

TURNING MOVEMENT COUNT

Tatum Blvd. & Desert Cove Ave.
(Intersection Name)

TUESDAY (Day) 06/05/18 (Date)

COUNT PERIODS			
AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 445 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Tatum Blvd.	DATE:	06/05/18	LOCATION:	Phoenix
E-W STREET:	Desert Cove Ave.	DAY:	TUESDAY	PROJECT#	18-1276-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	3	0	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	5	114	4	9	271	3	0	0	0	7	0	9	422
7:15 AM	3	124	3	6	319	4	0	1	0	4	0	2	466
7:30 AM	7	152	2	13	293	4	0	0	3	2	1	9	486
7:45 AM	5	146	8	12	251	2	0	0	0	3	0	7	434
8:00 AM	5	158	14	13	267	2	1	0	1	5	0	10	476
8:15 AM	4	177	5	22	247	4	0	0	0	4	0	8	471
8:30 AM	8	194	7	22	252	1	3	0	3	4	0	12	506
8:45 AM	9	197	6	18	197	2	4	0	0	5	0	13	451
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	46	1262	49	115	2097	22	8	1	7	34	1	70	3712
Approach %	3.39	93.00	3.61	5.15	93.87	0.98	50.00	6.25	43.75	32.38	0.95	66.67	
App/Depart	1357	/	1340	2234	/	2138	16	/	165	105	/	69	

AM Peak Hr Begins at: 800 AM

PEAK													
Volumes	26	726	32	75	963	9	8	0	4	18	0	43	1904
Approach %	3.32	92.60	4.08	7.16	91.98	0.86	66.67	0.00	33.33	29.51	0.00	70.49	
PEAK HR. FACTOR:		0.925			0.928			0.500			0.847		0.941

CONTROL:	Signal
COMMENT 1:	
GPS:	33.586296, -111.977893

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Tatum Blvd.	DATE:	06/05/18	LOCATION:	Phoenix
	0				
E-W STREET:	Desert Cove Ave.	DAY:	TUESDAY	PROJECT#	18-1276-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	3	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	6	356	7	22	249	3	4	0	4	8	1	24	684
4:15 PM	0	326	4	25	245	2	7	0	1	14	0	17	641
4:30 PM	5	321	12	18	238	0	6	0	3	19	0	25	647
4:45 PM	6	356	10	29	325	1	10	0	13	22	1	23	796
5:00 PM	0	397	9	21	278	1	6	0	7	19	0	25	763
5:15 PM	2	381	8	23	267	0	5	1	3	14	0	21	725
5:30 PM	1	357	8	25	237	0	3	0	1	12	0	18	662
5:45 PM	1	274	6	25	190	0	2	0	3	7	0	22	530
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	21	2768	64	188	2029	7	43	1	35	115	2	175	5448
Approach %	0.74	97.02	2.24	8.45	91.23	0.31	54.43	1.27	44.30	39.38	0.68	59.93	
App/Depart	2853	/	2986	2224	/	2179	79	/	253	292	/	30	

PM Peak Hr Begins at: 445 PM

PEAK													
Volumes	9	1491	35	98	1107	2	24	1	24	67	1	87	2946
Approach %	0.59	97.13	2.28	8.12	91.71	0.17	48.98	2.04	48.98	43.23	0.65	56.13	
PEAK HR. FACTOR:		0.945			0.850			0.533			0.842		0.925

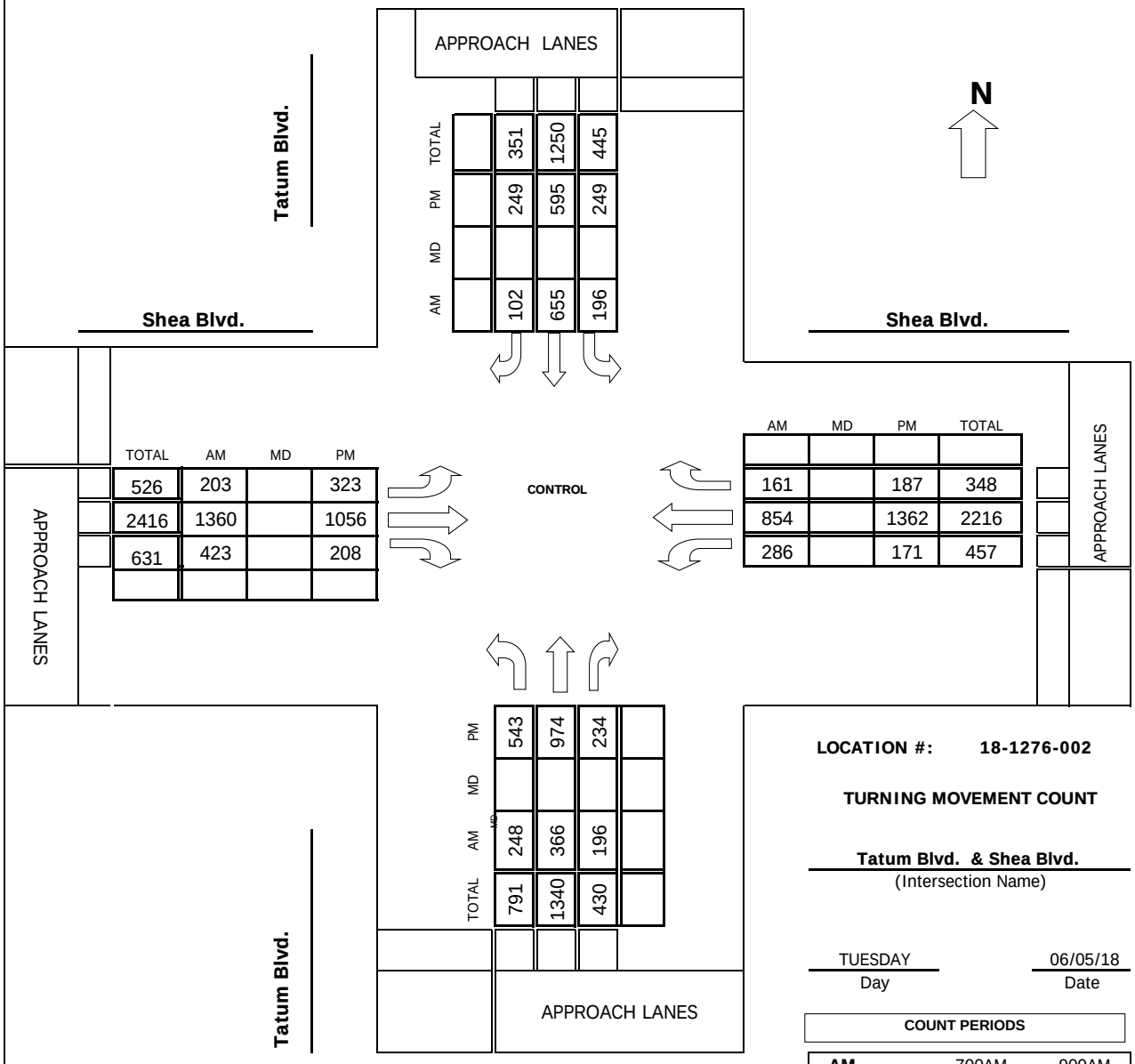
CONTROL:	Signal
COMMENT 1:	0
GPS:	33.586296, -111.977893

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 18-1276-002

TMC SUMMARY OF Tatum Blvd. & Shea Blvd.



LOCATION #: 18-1276-002

TURNING MOVEMENT COUNT

Tatum Blvd. & Shea Blvd.
(Intersection Name)

TUESDAY (Day) 06/05/18 (Date)

COUNT PERIODS

AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 745 AM

NOON PEAK HOUR

PM PEAK HOUR 445 PM

Intersection Turning Movement

Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Tatum Blvd.	DATE:	06/05/18	LOCATION:	Phoenix
E-W STREET:	Shea Blvd.	DAY:	TUESDAY	PROJECT#	18-1276-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	3	0	2	3	0	2	3	1	2	3	1	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	47	55	37	35	184	23	34	277	94	64	185	23	1058
7:15 AM	61	68	37	57	213	15	30	326	133	72	183	22	1217
7:30 AM	49	112	56	67	191	24	45	316	114	72	207	39	1292
7:45 AM	40	71	41	40	163	19	36	354	123	69	182	39	1177
8:00 AM	61	101	53	58	197	24	43	310	115	72	204	37	1275
8:15 AM	63	98	46	49	143	27	56	360	94	59	232	43	1270
8:30 AM	84	96	56	49	152	32	68	336	91	86	236	42	1328
8:45 AM	58	117	59	48	104	42	75	275	67	70	194	51	1160
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	463	718	385	403	1347	206	387	2554	831	564	1623	296	9777
Approach %	29.57	45.85	24.58	20.60	68.87	10.53	10.26	67.71	22.03	22.71	65.36	11.92	
App/Depart	1566	/	1401	1956	/	2742	3772	/	3342	2483	/	2292	

AM Peak Hr Begins at: 745 AM

PEAK													
Volumes	248	366	196	196	655	102	203	1360	423	286	854	161	5050
Approach %	30.62	45.19	24.20	20.57	68.73	10.70	10.22	68.48	21.30	21.98	65.64	12.38	
PEAK HR. FACTOR:		0.858			0.854			0.968			0.894		0.951

CONTROL: Signal
COMMENT 1:
GPS: 33.582677, -111.977906

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Tatum Blvd. 0	DATE:	06/05/18	LOCATION:	Phoenix
E-W STREET:	Shea Blvd.	DAY:	TUESDAY	PROJECT#	18-1276-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	3	0	2	3	0	2	3	1	2	3	1	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	130	208	52	54	139	46	69	216	47	63	336	78	1438
4:15 PM	113	197	55	53	138	46	72	267	50	44	302	48	1385
4:30 PM	117	210	46	48	133	57	81	280	35	40	340	63	1450
4:45 PM	134	210	52	64	165	66	86	245	51	39	321	55	1488
5:00 PM	140	272	72	74	154	65	69	282	53	44	356	38	1619
5:15 PM	147	249	53	59	148	60	81	265	59	47	344	32	1544
5:30 PM	122	243	57	52	128	58	87	264	45	41	341	62	1500
5:45 PM	98	161	52	51	101	34	81	226	40	43	277	50	1214
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	1001	1750	439	455	1106	432	626	2045	380	361	2617	426	11638
Approach %	31.38	54.86	13.76	22.83	55.49	21.68	20.52	67.03	12.45	10.61	76.88	12.51	
App/Depart	3190	/	2802	1993	/	1847	3051	/	2939	3404	/	4050	

PM Peak Hr Begins at: 445 PM

PEAK													
Volumes	543	974	234	249	595	249	323	1056	208	171	1362	187	6151
Approach %	31.01	55.63	13.36	22.78	54.44	22.78	20.35	66.54	13.11	9.94	79.19	10.87	
PEAK HR. FACTOR:		0.904			0.926			0.980			0.968		0.950

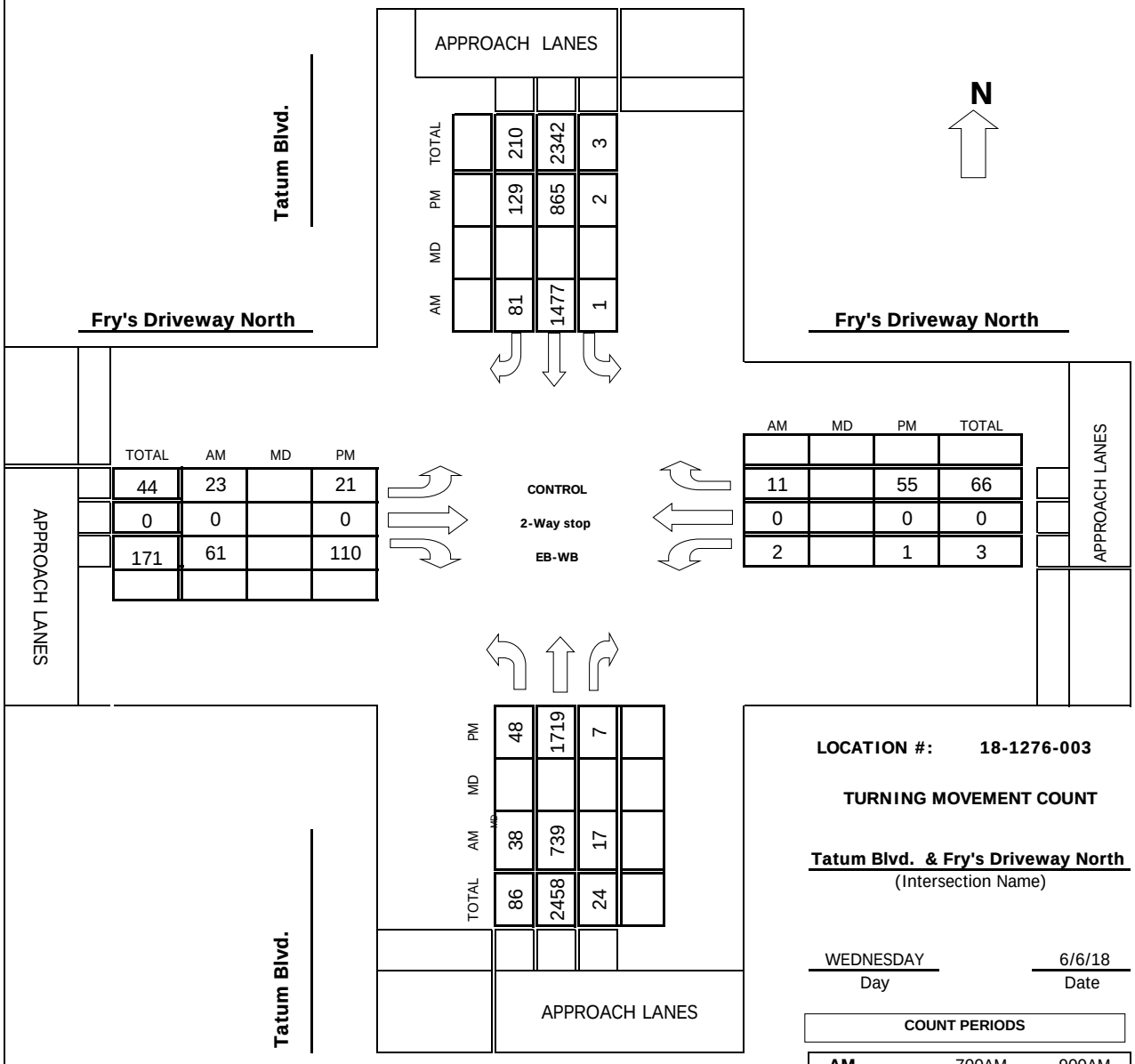
CONTROL: Signal
COMMENT 1: 0
GPS: 33.582677, -111.977906

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 18-1276-003

TMC SUMMARY OF Tatum Blvd. & Fry's Driveway North



LOCATION #: 18-1276-003

TURNING MOVEMENT COUNT

Tatum Blvd. & Fry's Driveway North
(Intersection Name)

WEDNESDAY (Day) 6/6/18 (Date)

COUNT PERIODS			
AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 715 AM

NOON PEAK HOUR

PM PEAK HOUR 445 PM

Intersection Turning Movement

Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Tatum Blvd.	DATE:	6/6/18	LOCATION:	Phoenix
E-W STREET:	Fry's Driveway North	DAY:	WEDNESDAY	PROJECT#	18-1276-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	1	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	5	138	4	0	345	10	3	0	15	0	0	2	522
7:15 AM	11	186	2	0	404	15	4	0	15	0	0	0	637
7:30 AM	8	199	5	0	364	22	9	0	2	0	0	3	612
7:45 AM	6	158	6	0	347	23	4	0	17	1	0	2	564
8:00 AM	13	196	4	1	362	21	6	0	27	1	0	6	637
8:15 AM	10	201	2	3	281	18	11	1	24	1	1	6	559
8:30 AM	11	209	5	1	320	19	8	0	17	3	0	4	597
8:45 AM	7	225	5	1	228	25	4	0	16	1	0	9	521
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	71	1512	33	6	2651	153	49	1	133	7	1	32	4649
Approach %	4.39	93.56	2.04	0.21	94.34	5.44	26.78	0.55	72.68	17.50	2.50	80.00	
App/Depart	1616	/	1593	2810	/	2791	183	/	40	40	/	225	

AM Peak Hr Begins at: 715 AM

PEAK													
Volumes	38	739	17	1	1477	81	23	0	61	2	0	11	2450
Approach %	4.79	93.07	2.14	0.06	94.74	5.20	27.38	0.00	72.62	15.38	0.00	84.62	
PEAK HR. FACTOR:		0.932			0.930			0.636			0.464		0.962

CONTROL: 2-Way Stop (EB-WB)
COMMENT 1:
GPS: 33.581381, -111.977890

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Tatum Blvd. 0	DATE:	6/6/18	LOCATION:	Phoenix
E-W STREET:	Fry's Driveway North	DAY:	WEDNESDAY	PROJECT#	18-1276-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	1	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	11	388	5	0	204	56	7	0	20	1	0	12	704
4:15 PM	12	358	3	2	214	25	5	0	25	0	0	9	653
4:30 PM	10	365	3	0	193	37	6	0	24	1	0	11	650
4:45 PM	8	387	1	2	229	27	3	0	31	0	0	21	709
5:00 PM	7	494	3	0	215	37	3	0	34	0	0	18	811
5:15 PM	19	431	1	0	235	35	7	0	17	0	0	7	752
5:30 PM	14	407	2	0	186	30	8	0	28	1	0	9	685
5:45 PM	11	306	0	0	172	29	4	0	27	1	0	2	552
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	92	3136	18	4	1648	276	43	0	206	4	0	89	5516
Approach %	2.83	96.61	0.55	0.21	85.48	14.32	17.27	0.00	82.73	4.30	0.00	95.70	
App/Depart	3246	/	3268	1928	/	1858	249	/	22	93	/	368	

PM Peak Hr Begins at: 445 PM

PEAK													
Volumes	48	1719	7	2	865	129	21	0	110	1	0	55	2957
Approach %	2.71	96.90	0.39	0.20	86.85	12.95	16.03	0.00	83.97	1.79	0.00	98.21	
PEAK HR. FACTOR:		0.880			0.922			0.885			0.667		0.912

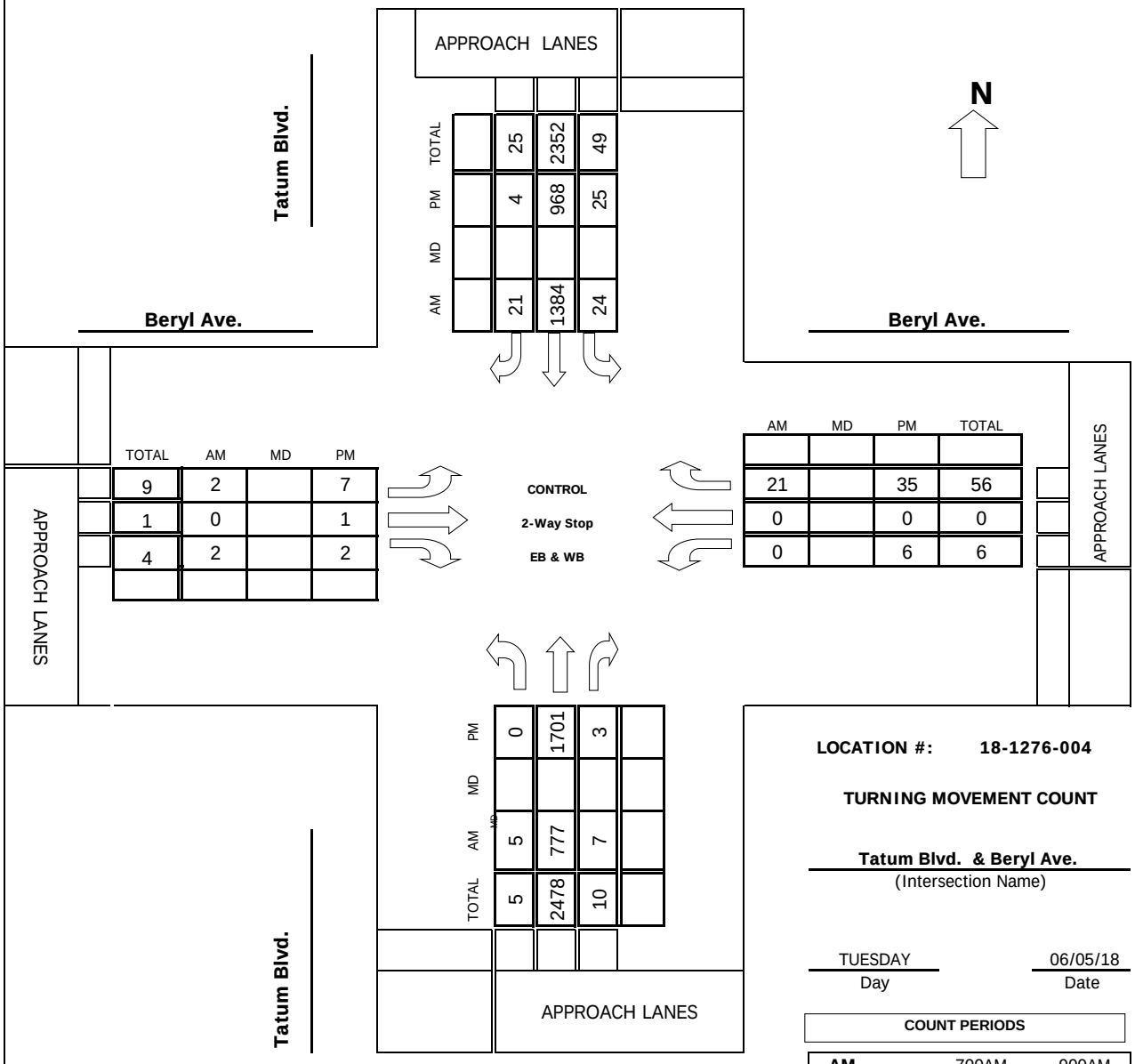
CONTROL: 2-Way Stop (EB-WB)
COMMENT 1: 0
GPS: 33.581381, -111.977890

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 18-1276-004

TMC SUMMARY OF Tatum Blvd. & Beryl Ave.



LOCATION #: 18-1276-004

TURNING MOVEMENT COUNT

Tatum Blvd. & Beryl Ave.
(Intersection Name)

TUESDAY (Day) 06/05/18 (Date)

COUNT PERIODS			
AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 730 AM

NOON PEAK HOUR

PM PEAK HOUR 430 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Tatum Blvd.	DATE:	06/05/18	LOCATION:	Phoenix
E-W STREET:	Beryl Ave.	DAY:	TUESDAY	PROJECT#	18-1276-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	3	0	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	173	1	4	334	2	0	0	0	2	0	3	519
7:15 AM	0	177	2	5	336	1	0	0	0	5	0	4	530
7:30 AM	1	191	1	8	382	5	1	0	1	0	0	4	594
7:45 AM	3	188	3	4	358	4	0	0	0	0	0	4	564
8:00 AM	1	196	2	10	332	4	1	0	0	0	0	5	551
8:15 AM	0	202	1	2	312	8	0	0	1	0	0	8	534
8:30 AM	0	216	1	7	270	5	2	0	1	1	0	6	509
8:45 AM	0	208	1	9	258	5	1	0	0	0	0	4	486
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	5	1551	12	49	2582	34	5	0	3	8	0	38	4287
Approach %	0.32	98.92	0.77	1.84	96.89	1.28	62.50	0.00	37.50	17.39	0.00	82.61	
App/Depart	1568	/	1594	2665	/	2593	8	/	61	46	/	39	

AM Peak Hr Begins at: 730 AM

PEAK													
Volumes	5	777	7	24	1384	21	2	0	2	0	0	21	2243
Approach %	0.63	98.48	0.89	1.68	96.85	1.47	50.00	0.00	50.00	0.00	0.00	100.00	
PEAK HR. FACTOR:		0.972			0.904			0.500			0.656		0.944

CONTROL: 2-Way Stop (EB & WB)
COMMENT 1:
GPS: 33.580026, -111.977876

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Tatum Blvd. 0	DATE:	06/05/18	LOCATION:	Phoenix
E-W STREET:	Beryl Ave.	DAY:	TUESDAY	PROJECT#	18-1276-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	3	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	0	368	0	7	248	1	2	0	0	0	0	3	629
4:15 PM	0	378	1	6	229	1	2	0	1	3	0	13	634
4:30 PM	0	403	2	8	241	1	1	0	0	2	0	10	668
4:45 PM	0	388	0	5	254	2	4	0	1	1	0	8	663
5:00 PM	0	479	1	10	251	0	1	1	0	1	0	9	753
5:15 PM	0	431	0	2	222	1	1	0	1	2	0	8	668
5:30 PM	0	347	0	3	216	0	0	0	1	2	0	4	573
5:45 PM	0	264	0	3	192	0	3	0	0	0	0	3	465
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	3058	4	44	1853	6	14	1	4	11	0	58	5053
Approach %	0.00	99.87	0.13	2.31	97.37	0.32	73.68	5.26	21.05	15.94	0.00	84.06	
App/Depart	3062	/	3130	1903	/	1868	19	/	49	69	/	6	

PM Peak Hr Begins at: 430 PM

PEAK													
Volumes	0	1701	3	25	968	4	7	1	2	6	0	35	2752
Approach %	0.00	99.82	0.18	2.51	97.09	0.40	70.00	10.00	20.00	14.63	0.00	85.37	
PEAK HR. FACTOR:		0.888			0.955			0.500			0.854		0.914

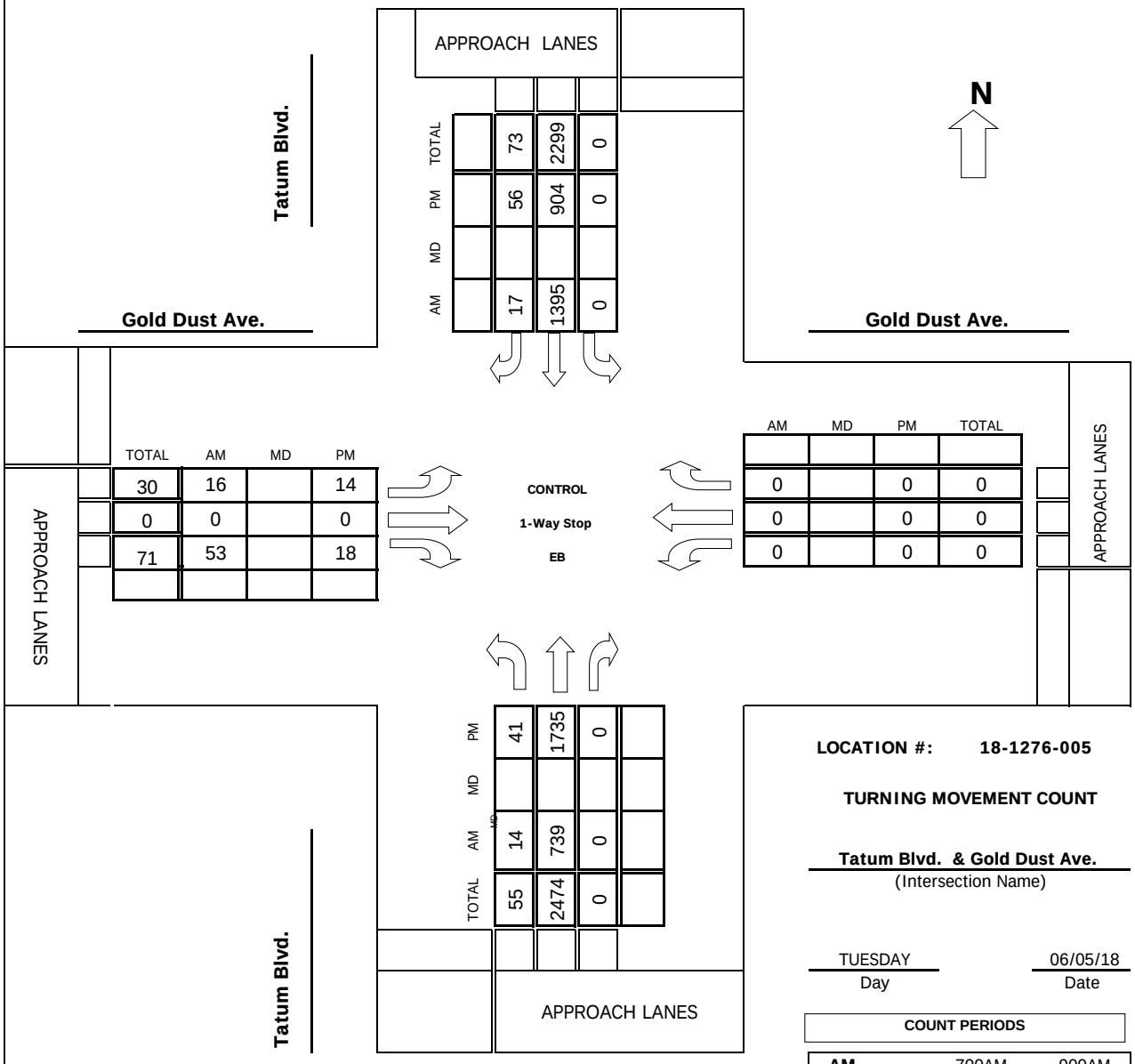
CONTROL: 2-Way Stop (EB & WB)
COMMENT 1: 0
GPS: 33.580026, -111.977876

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 18-1276-005

TMC SUMMARY OF Tatum Blvd. & Gold Dust Ave.



LOCATION #: 18-1276-005

TURNING MOVEMENT COUNT

Tatum Blvd. & Gold Dust Ave.
(Intersection Name)

TUESDAY (Day) 06/05/18 (Date)

COUNT PERIODS			
AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 715 AM

NOON PEAK HOUR

PM PEAK HOUR 430 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Tatum Blvd.	DATE:	06/05/18	LOCATION:	Phoenix
E-W STREET:	Gold Dust Ave.	DAY:	TUESDAY	PROJECT#	18-1276-005

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	1	0	1	0	0	0	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	2	169	0	0	327	9	3	0	14	0	0	0	524
7:15 AM	4	171	0	0	336	2	5	0	12	0	0	0	530
7:30 AM	4	189	0	0	378	5	4	0	15	0	0	0	595
7:45 AM	2	188	0	0	354	4	4	0	15	0	0	0	567
8:00 AM	4	191	0	0	327	6	3	0	11	0	0	0	542
8:15 AM	4	198	0	0	306	4	6	0	7	0	0	0	525
8:30 AM	7	212	0	0	253	12	7	0	12	0	0	0	503
8:45 AM	5	198	0	0	238	9	8	0	4	0	0	0	462
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	32	1516	0	0	2519	51	40	0	90	0	0	0	4248
Approach %	2.07	97.93	0.00	0.00	98.02	1.98	30.77	0.00	69.23	####	####	####	
App/Depart	1548	/	1556	2570	/	2609	130	/	0	0	/	83	

AM Peak Hr Begins at: 715 AM

PEAK													
Volumes	14	739	0	0	1395	17	16	0	53	0	0	0	2234
Approach %	1.86	98.14	0.00	0.00	98.80	1.20	23.19	0.00	76.81	####	####	####	
PEAK HR. FACTOR:		0.965			0.922			0.908			0.000		0.939

CONTROL: 1-Way Stop (EB)
COMMENT 1:
GPS: 33.579076, -111.977859

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Tatum Blvd. 0	DATE:	06/05/18	LOCATION:	Phoenix
E-W STREET:	Gold Dust Ave.	DAY:	TUESDAY	PROJECT#	18-1276-005

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	1	0	1	0	0	0	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	8	380	0	0	235	4	1	0	0	0	0	0	628
4:15 PM	6	388	0	0	220	18	1	0	2	0	0	0	635
4:30 PM	5	407	0	0	221	13	2	0	4	0	0	0	652
4:45 PM	8	380	0	0	244	10	3	0	3	0	0	0	648
5:00 PM	14	494	0	0	238	17	4	0	5	0	0	0	772
5:15 PM	14	454	0	0	201	16	5	0	6	0	0	0	696
5:30 PM	7	357	0	0	205	12	1	0	1	0	0	0	583
5:45 PM	7	270	0	0	185	11	1	0	1	0	0	0	475
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	69	3130	0	0	1749	101	18	0	22	0	0	0	5089
Approach %	2.16	97.84	0.00	0.00	94.54	5.46	45.00	0.00	55.00	####	####	####	
App/Depart	3199	/	3148	1850	/	1771	40	/	0	0	/	170	

PM Peak Hr Begins at: 430 PM

PEAK													
Volumes	41	1735	0	0	904	56	14	0	18	0	0	0	2768
Approach %	2.31	97.69	0.00	0.00	94.17	5.83	43.75	0.00	56.25	####	####	####	
PEAK HR. FACTOR:		0.874			0.941			0.727			0.000		0.896

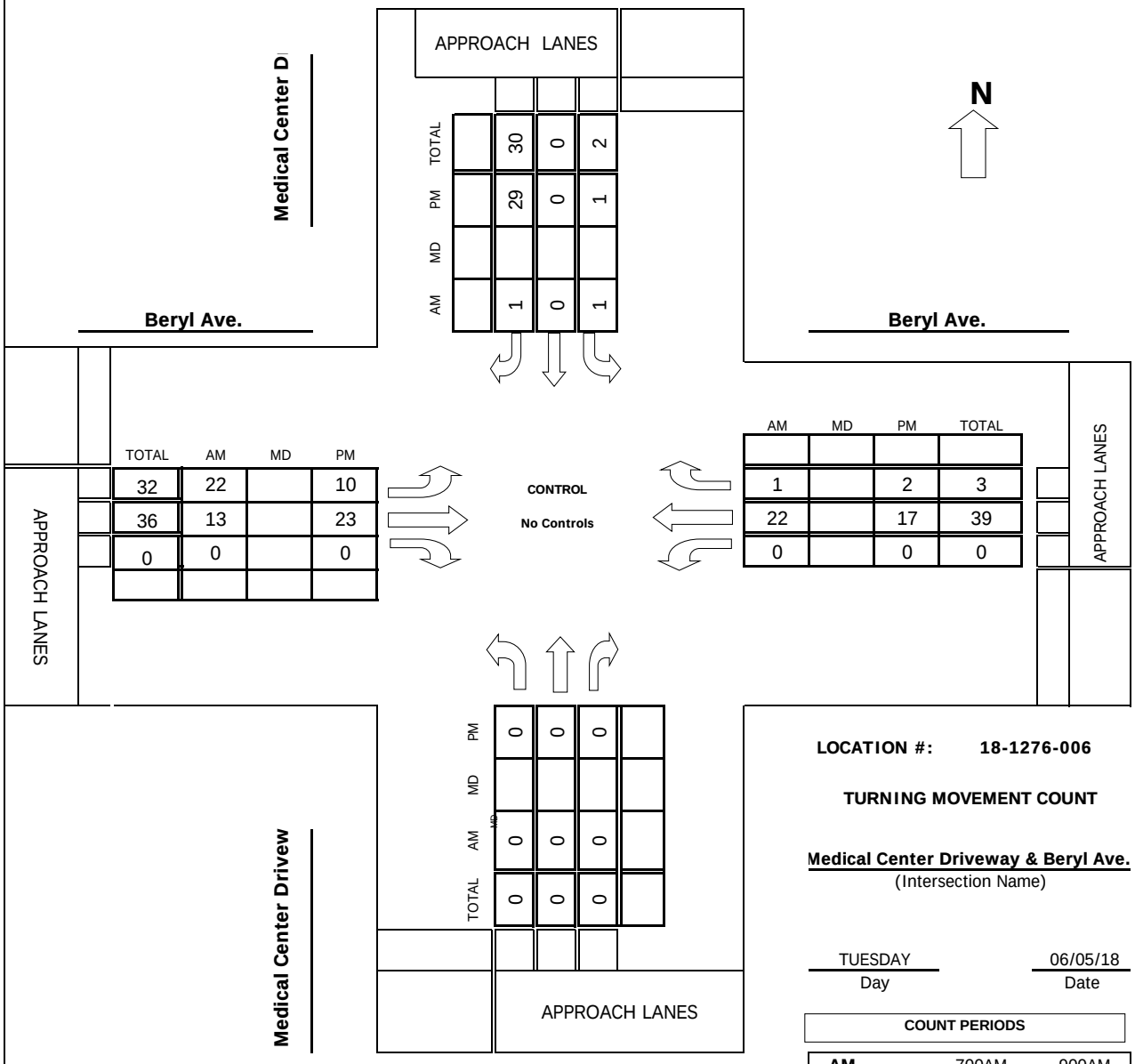
CONTROL:	1-Way Stop (EB)
COMMENT 1:	0
GPS:	33.579076, -111.977859

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 18-1276-006

TMC SUMMARY OF Medical Center Driveway & Beryl Ave.



LOCATION #: 18-1276-006

TURNING MOVEMENT COUNT

Medical Center Driveway & Beryl Ave.
(Intersection Name)

TUESDAY (Day) 06/05/18 (Date)

COUNT PERIODS			
AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 415 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Medical Center Driveway	DATE:	06/05/18	LOCATION:	Phoenix
E-W STREET:	Beryl Ave.	DAY:	TUESDAY	PROJECT#	18-1276-006

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	1	0	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	0	0	0	0	0	1	3	0	0	5	0	9
7:15 AM	0	0	0	0	0	1	5	3	0	0	7	0	16
7:30 AM	0	0	0	0	0	0	4	4	0	0	5	1	14
7:45 AM	0	0	0	0	0	1	3	4	0	0	3	0	11
8:00 AM	0	0	0	0	0	0	8	4	0	0	5	1	18
8:15 AM	0	0	0	0	0	0	2	2	0	0	8	0	12
8:30 AM	0	0	0	1	0	0	6	3	0	0	6	0	16
8:45 AM	0	0	0	0	0	1	6	4	0	0	3	0	14
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	0	0	1	0	3	35	27	0	0	42	2	110
Approach %	####	####	####	25.00	0.00	75.00	56.45	43.55	0.00	0.00	95.45	4.55	
App/Depart	0	/	37	4	/	0	62	/	28	44	/	45	

AM Peak Hr Begins at: 800 AM

PEAK													
Volumes	0	0	0	1	0	1	22	13	0	0	22	1	60
Approach %	####	####	####	50.00	0.00	50.00	62.86	37.14	0.00	0.00	95.65	4.35	
PEAK HR. FACTOR:		0.000			0.500			0.729			0.719		0.833

CONTROL: No Controls
COMMENT 1:
GPS: 33.580032, -111.977364

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Medical Center Driveway 0	DATE:	06/05/18	LOCATION:	Phoenix
E-W STREET:	Beryl Ave.	DAY:	TUESDAY	PROJECT#	18-1276-006

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	1	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	0	0	0	0	0	1	2	5	0	0	3	0	11
4:15 PM	0	0	0	0	0	9	1	6	0	0	5	1	22
4:30 PM	0	0	0	0	0	7	3	6	0	0	6	1	23
4:45 PM	0	0	0	1	0	7	2	4	0	0	2	0	16
5:00 PM	0	0	0	0	0	6	4	7	0	0	4	0	21
5:15 PM	0	0	0	0	0	5	0	4	0	0	5	1	15
5:30 PM	0	0	0	0	0	2	1	2	0	0	4	0	9
5:45 PM	0	0	0	0	0	0	0	3	0	0	3	0	6
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	0	0	1	0	37	13	37	0	0	32	3	123
Approach %	####	####	####	2.63	0.00	97.37	26.00	74.00	0.00	0.00	91.43	8.57	
App/Depart	0	/	16	38	/	0	50	/	38	35	/	69	

PM Peak Hr Begins at: 415 PM

PEAK													
Volumes	0	0	0	1	0	29	10	23	0	0	17	2	82
Approach %	####	####	####	3.33	0.00	96.67	30.30	69.70	0.00	0.00	89.47	10.53	
PEAK HR. FACTOR:		0.000			0.833			0.750			0.679		0.891

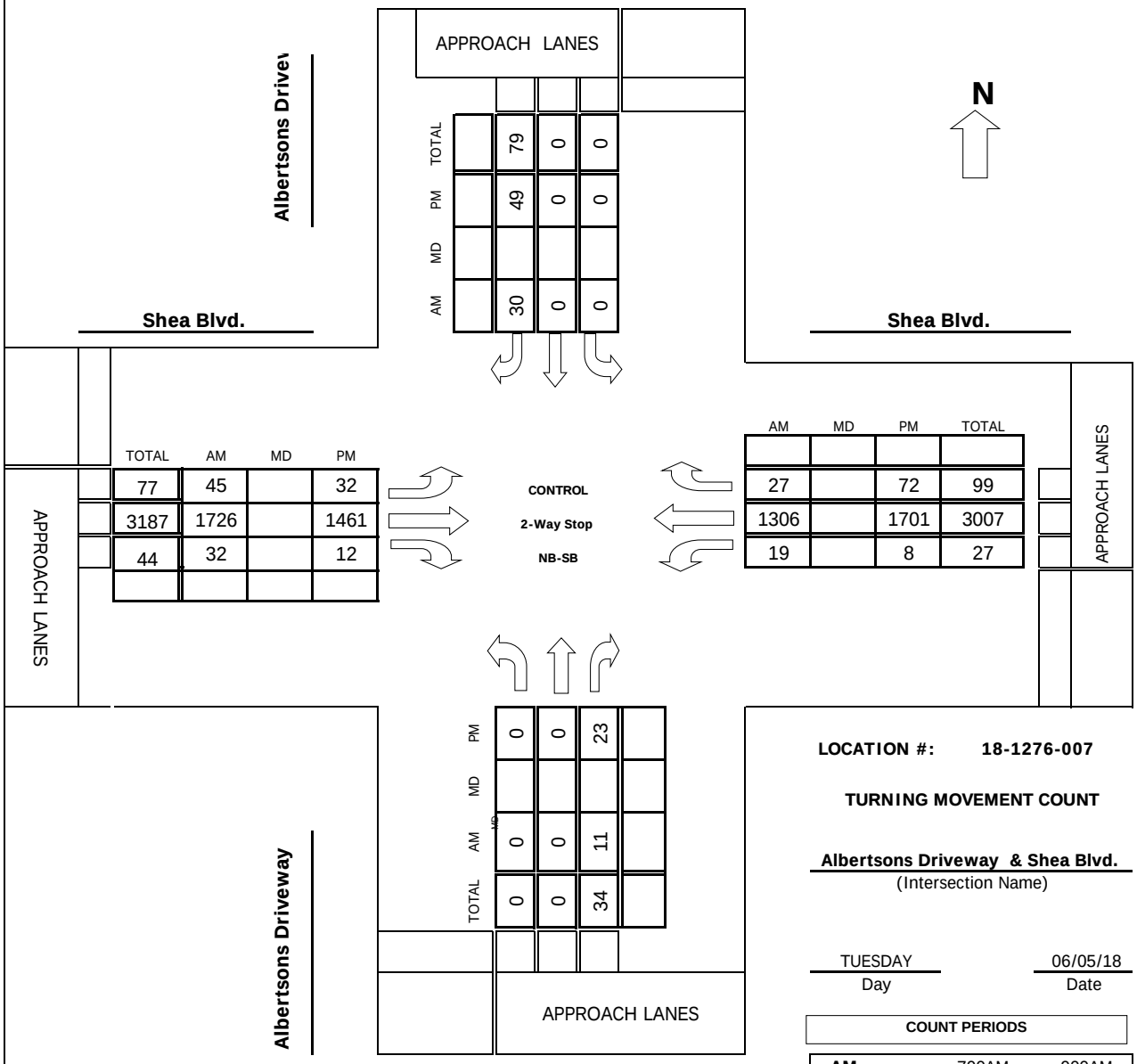
CONTROL:	No Controls
COMMENT 1:	0
GPS:	33.580032, -111.977364

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 18-1276-007

TMC SUMMARY OF Albertsons Driveway & Shea Blvd.



LOCATION #: 18-1276-007

TURNING MOVEMENT COUNT

Albertsons Driveway & Shea Blvd.
(Intersection Name)

TUESDAY (Day) 06/05/18 (Date)

COUNT PERIODS			
AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 445 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Albertsons Driveway Medical Center	DATE:	06/05/18	LOCATION:	Phoenix
E-W STREET:	Shea Blvd.	DAY:	TUESDAY	PROJECT#	18-1276-007

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	1	0	0	1	1	3	0	0	3	1	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	0	2	0	0	6	12	328	3	1	244	4	600
7:15 AM	0	0	0	0	0	2	11	402	7	2	270	6	700
7:30 AM	0	0	3	0	0	4	15	368	4	11	252	5	662
7:45 AM	0	0	1	0	0	7	8	431	10	6	286	2	751
8:00 AM	0	0	2	0	0	7	6	435	8	4	322	5	789
8:15 AM	0	0	2	0	0	6	15	410	8	4	321	6	772
8:30 AM	0	0	1	0	0	5	11	477	6	3	343	8	854
8:45 AM	0	0	6	0	0	12	13	404	10	8	320	8	781
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	0	17	0	0	49	91	3255	56	39	2358	44	5909
Approach %	0.00	0.00	100.00	0.00	0.00	100.00	2.67	95.68	1.65	1.60	96.60	1.80	
App/Depart	17	/	135	49	/	95	3402	/	3272	2441	/	2407	

AM Peak Hr Begins at: 800 AM

PEAK													
Volumes	0	0	11	0	0	30	45	1726	32	19	1306	27	3196
Approach %	0.00	0.00	100.00	0.00	0.00	100.00	2.50	95.73	1.77	1.41	96.60	2.00	
PEAK HR. FACTOR:		0.458			0.625			0.912			0.955		0.936

CONTROL: 2-Way Stop (NB-SB)
COMMENT 1:
GPS: 33.582676, -111.974761

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Albertsons Driveway Medical Center	DATE:	06/05/18	LOCATION:	Phoenix
E-W STREET:	Shea Blvd.	DAY:	TUESDAY	PROJECT#	18-1276-007

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	1	0	0	1	1	3	0	0	3	1	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	0	0	10	0	0	16	12	320	1	1	425	15	800
4:15 PM	0	0	4	0	0	13	22	366	4	2	401	20	832
4:30 PM	0	0	5	0	0	12	9	347	2	3	413	11	802
4:45 PM	0	0	5	0	0	12	11	352	3	3	423	20	829
5:00 PM	0	0	12	0	0	10	9	375	3	1	428	15	853
5:15 PM	0	0	3	0	0	10	4	403	3	2	427	20	872
5:30 PM	0	0	3	0	0	17	8	331	3	2	423	17	804
5:45 PM	0	0	2	0	0	11	11	354	1	1	394	18	792
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	0	44	0	0	101	86	2848	20	15	3334	136	6584
Approach %	0.00	0.00	100.00	0.00	0.00	100.00	2.91	96.41	0.68	0.43	95.67	3.90	
App/Depart	44	/	222	101	/	35	2954	/	2892	3485	/	3435	

PM Peak Hr Begins at: 445 PM

PEAK													
Volumes	0	0	23	0	0	49	32	1461	12	8	1701	72	3358
Approach %	0.00	0.00	100.00	0.00	0.00	100.00	2.13	97.08	0.80	0.45	95.51	4.04	
PEAK HR. FACTOR:		0.479			0.721			0.918			0.992		0.963

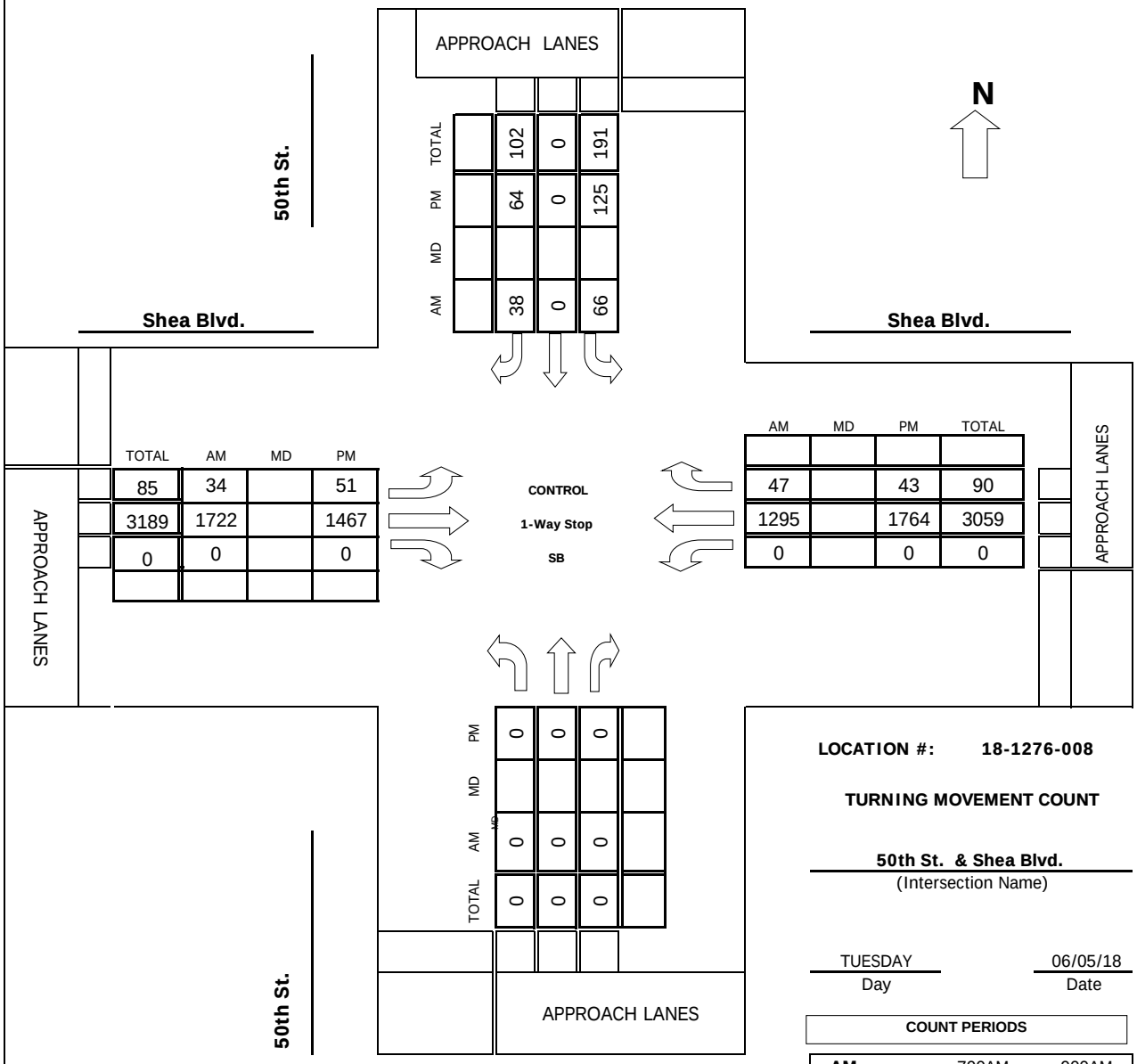
CONTROL:	2-Way Stop (NB-SB)
COMMENT 1:	0
GPS:	33.582676, -111.974761

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 18-1276-008

TMC SUMMARY OF 50th St. & Shea Blvd.



LOCATION #: 18-1276-008

TURNING MOVEMENT COUNT

50th St. & Shea Blvd.
(Intersection Name)

TUESDAY (Day) 06/05/18 (Date)

COUNT PERIODS			
AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 745 AM

NOON PEAK HOUR

PM PEAK HOUR 430 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	50th St.	DATE:	06/05/18	LOCATION:	Phoenix
E-W STREET:	Shea Blvd.	DAY:	TUESDAY	PROJECT#	18-1276-008

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	1	0	1	1	3	0	0	2	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	0	0	14	0	6	4	345	0	0	268	3	640
7:15 AM	0	0	0	10	0	10	5	426	0	0	283	3	737
7:30 AM	0	0	0	13	0	9	6	445	0	0	321	12	806
7:45 AM	0	0	0	11	0	10	6	434	0	0	278	13	752
8:00 AM	0	0	0	17	0	8	16	416	0	0	325	7	789
8:15 AM	0	0	0	17	0	11	2	448	0	0	317	11	806
8:30 AM	0	0	0	21	0	9	10	424	0	0	375	16	855
8:45 AM	0	0	0	32	0	11	5	366	0	0	313	18	745
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	0	0	135	0	74	54	3304	0	0	2480	83	6130
Approach %	####	####	####	64.59	0.00	35.41	1.61	98.39	0.00	0.00	96.76	3.24	
App/Depart	0	/	137	209	/	0	3358	/	3439	2563	/	2554	

AM Peak Hr Begins at: 745 AM

PEAK													
Volumes	0	0	0	66	0	38	34	1722	0	0	1295	47	3202
Approach %	####	####	####	63.46	0.00	36.54	1.94	98.06	0.00	0.00	96.50	3.50	
PEAK HR. FACTOR:		0.000			0.867			0.976			0.858		0.936

CONTROL: 1-Way Stop (SB)
COMMENT 1:
GPS: 33.582714, -111.973552

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	50th St.	DATE:	06/05/18	LOCATION:	Phoenix
	0				
E-W STREET:	Shea Blvd.	DAY:	TUESDAY	PROJECT#	18-1276-008

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	1	0	1	1	3	0	0	2	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	0	0	0	25	0	11	7	301	0	0	424	12	780
4:15 PM	0	0	0	28	0	7	1	347	0	0	409	9	801
4:30 PM	0	0	0	24	0	16	19	353	0	0	443	8	863
4:45 PM	0	0	0	46	0	19	7	355	0	0	423	11	861
5:00 PM	0	0	0	25	0	11	13	398	0	0	457	8	912
5:15 PM	0	0	0	30	0	18	12	361	0	0	441	16	878
5:30 PM	0	0	0	40	0	9	17	339	0	0	419	15	839
5:45 PM	0	0	0	24	0	14	8	310	0	0	332	10	698
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	0	0	242	0	105	84	2764	0	0	3348	89	6632
Approach %	####	####	####	69.74	0.00	30.26	2.95	97.05	0.00	0.00	97.41	2.59	
App/Depart	0	/	173	347	/	0	2848	/	3006	3437	/	3453	

PM Peak Hr Begins at: 430 PM

PEAK													
Volumes	0	0	0	125	0	64	51	1467	0	0	1764	43	3514
Approach %	####	####	####	66.14	0.00	33.86	3.36	96.64	0.00	0.00	97.62	2.38	
PEAK HR. FACTOR:		0.000			0.727			0.923			0.972		0.963

CONTROL:	1-Way Stop (SB)
COMMENT 1:	0
GPS:	33.582714, -111.973552

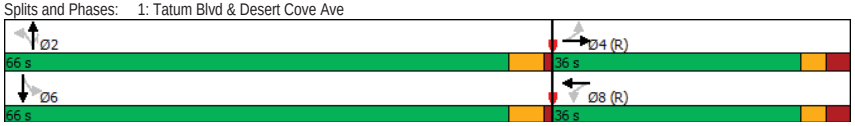
APPENDIX C

EXISTING PEAK HOUR CAPACITY ANALYSIS

Phase Number	2	4	6	8
Movement	NBTL	EBTL	SBTL	WBTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	None	C-Max	None	C-Max
Maximum Split (s)	66	36	66	36
Maximum Split (%)	64.7%	35.3%	64.7%	35.3%
Minimum Split (s)	25.3	35	25.3	35
Yellow Time (s)	4.3	3	4.3	3
All-Red Time (s)	1	3	1	3
Minimum Initial (s)	15	4	15	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	8	7	8	7
Flash Dont Walk (s)	12	22	12	22
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	55	19	55	19
End Time (s)	19	55	19	55
Yield/Force Off (s)	13.7	49	13.7	49
Yield/Force Off 170(s)	1.7	27	1.7	27
Local Start Time (s)	36	0	36	0
Local Yield (s)	96.7	30	96.7	30
Local Yield 170(s)	84.7	8	84.7	8

Intersection Summary		
Cycle Length		102
Control Type	Actuated-Coordinated	
Natural Cycle		65
Offset: 19 (19%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green		

Splits and Phases: 1: Tatum Blvd & Desert Cove Ave



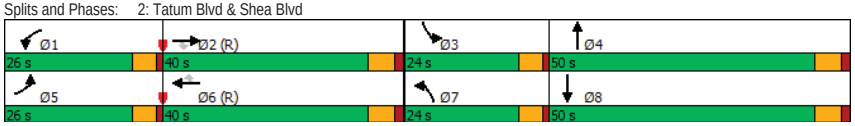
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	0	4	18	0	44	27	742	33	77	984	9
Future Volume (veh/h)	8	0	4	18	0	44	27	742	33	77	984	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	0	4	20	0	49	30	824	37	86	1093	10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	573	11	233	259	23	578	169	1844	572	223	1884	17
Arrive On Green	0.53	0.00	0.53	0.53	0.00	0.53	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	972	20	441	403	44	1095	511	5106	1585	642	5218	48
Grp Volume(v), veh/h	13	0	0	69	0	0	30	824	37	86	713	390
Grp Sat Flow(s),veh/h/ln	1434	0	0	1542	0	0	511	1702	1585	642	1702	1862
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	5.1	12.5	1.6	12.0	17.3	17.3
Cycle Q Clear(g_c), s	0.4	0.0	0.0	2.1	0.0	0.0	22.4	12.5	1.6	24.6	17.3	17.3
Prop In Lane	0.69		0.31	0.29		0.71	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	817	0	0	860	0	0	169	1844	572	223	1229	672
V/C Ratio(X)	0.02	0.00	0.00	0.08	0.00	0.00	0.18	0.45	0.06	0.38	0.58	0.58
Avail Cap(c_a), veh/h	817	0	0	860	0	0	288	3039	943	374	2026	1108
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.4	0.0	0.0	11.8	0.0	0.0	35.4	24.8	21.3	34.2	26.3	26.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.4	0.1	0.0	1.1	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	0.0	1.4	0.0	0.0	1.2	8.4	1.0	3.5	11.3	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	0.0	0.0	12.0	0.0	0.0	35.8	25.0	21.4	35.3	26.8	27.1
LnGrp LOS	B	A	A	B	A	A	D	C	C	D	C	C
Approach Vol, veh/h		13			69			891			1189	
Approach Delay, s/veh		11.5			12.0			25.2			27.5	
Approach LOS		B			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		42.1		59.9		42.1		59.9				
Change Period (Y+Rc), s		5.3		6.0		5.3		6.0				
Max Green Setting (Gmax), s		60.7		30.0		60.7		30.0				
Max Q Clear Time (g_c+I1), s		24.4		2.4		26.6		4.1				
Green Ext Time (p_c), s		7.5		0.0		10.3		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		26.0
HCM 6th LOS		C

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	SBL	NBT	EBL	WBT	NBL	SBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	26	40	24	50	26	40	24	50
Maximum Split (%)	18.6%	28.6%	17.1%	35.7%	18.6%	28.6%	17.1%	35.7%
Minimum Split (s)	10	36.9	20	40	10	36.9	20	40
Yellow Time (s)	4	4.3	4	4.3	4	4.3	4	4.3
All-Red Time (s)	1	1.6	1	1.7	1	1.6	1	1.7
Minimum Initial (s)	5	15	15	15	5	15	15	15
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		8		8		8		8
Flash Dont Walk (s)		23		26		23		26
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	114	0	40	64	114	0	40	64
End Time (s)	0	40	64	114	0	40	64	114
Yield/Force Off (s)	135	34.1	59	108	135	34.1	59	108
Yield/Force Off 170(s)	135	11.1	59	82	135	11.1	59	82
Local Start Time (s)	114	0	40	64	114	0	40	64
Local Yield (s)	135	34.1	59	108	135	34.1	59	108
Local Yield 170(s)	135	11.1	59	82	135	11.1	59	82

Intersection Summary		
Cycle Length		140
Control Type	Actuated-Coordinated	
Natural Cycle		110
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection		

Splits and Phases: 2: Tatum Blvd & Shea Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	1390	432	292	873	165	253	374	200	200	669	104
Future Volume (veh/h)	207	1390	432	292	873	165	253	374	200	200	669	104
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	230	1544	480	324	970	183	281	416	222	222	743	116
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	2103	653	382	2242	696	370	728	339	370	954	148
Arrive On Green	0.08	0.41	0.41	0.11	0.44	0.44	0.11	0.21	0.21	0.11	0.21	0.21
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3404	1585	3456	4460	690
Grp Volume(v), veh/h	230	1544	480	324	970	183	281	416	222	222	566	293
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1702	1585	1728	1702	1746
Q Serve(g_s), s	9.1	35.7	35.8	12.9	18.4	10.3	11.1	15.3	17.9	8.6	21.9	22.2
Cycle Q Clear(g_c), s	9.1	35.7	35.8	12.9	18.4	10.3	11.1	15.3	17.9	8.6	21.9	22.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	288	2103	653	382	2242	696	370	728	339	370	728	374
V/C Ratio(X)	0.80	0.73	0.74	0.85	0.43	0.26	0.76	0.57	0.65	0.60	0.78	0.79
Avail Cap(c_a), veh/h	518	2103	653	518	2242	696	469	1070	498	469	1070	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73
Uniform Delay (d), s/veh	63.0	34.7	34.7	61.1	27.2	24.9	60.7	49.3	50.3	59.6	51.9	52.0
Incr Delay (d2), s/veh	5.1	2.3	7.2	9.5	0.6	0.9	5.4	0.7	2.1	1.1	1.6	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.6	21.6	21.4	10.2	12.2	7.4	8.9	10.9	11.8	6.6	13.9	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.1	37.0	42.0	70.6	27.8	25.8	66.2	50.0	52.4	60.8	53.5	55.3
LnGrp LOS	E	D	D	E	C	C	E	D	D	E	D	E
Approach Vol, veh/h		2254			1477			919			1081	
Approach Delay, s/veh		41.2			36.9			55.5			55.5	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.5	63.6	20.0	36.0	16.7	67.4	20.0	36.0
Change Period (Y+Rc), s	5.0	* 5.9	5.0	* 6	5.0	* 5.9	5.0	* 6
Max Green Setting (Gmax), s	21.0	* 34	19.0	* 44	21.0	* 34	19.0	* 44
Max Q Clear Time (g_c+I1), s	14.9	37.8	10.6	19.9	11.1	20.4	13.1	24.2
Green Ext Time (p_c), s	0.6	0.0	0.5	4.5	0.5	6.3	0.5	5.7

Intersection Summary		
HCM 6th Ctrl Delay		45.1
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	0	62	2	0	11	39	755	17	1	1509	83
Future Vol, veh/h	24	0	62	2	0	11	39	755	17	1	1509	83
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	69	2	0	12	43	839	19	1	1677	92

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2101	2623	839	1608	2706	429	1769	0	0	858	0	0
Stage 1	1679	1679	-	935	935	-	-	-	-	-	-	-
Stage 2	422	944	-	673	1771	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*255	*77	*571	*586	64	491	636	-	-	458	-	-
Stage 1	*586	*557	-	*221	342	-	-	-	-	-	-	-
Stage 2	*531	*339	-	*586	496	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	*180	*49	*571	*373	41	491	636	-	-	458	-	-
Mov Cap-2 Maneuver	*180	*49	-	*373	41	-	-	-	-	-	-	-
Stage 1	*546	*385	-	*206	319	-	-	-	-	-	-	-
Stage 2	*483	*316	-	*356	342	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.8	12.9	0.5	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	636	-	-	355	468	458	-	-
HCM Lane V/C Ratio	0.068	-	-	0.269	0.031	0.002	-	-
HCM Control Delay (s)	11.1	-	-	18.8	12.9	12.9	-	-
HCM Lane LOS	B	-	-	C	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.1	0.1	0	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	2	0	0	24	5	794	8	27	1414	21
Future Vol, veh/h	2	0	2	0	0	24	5	794	8	27	1414	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	0	0	27	6	882	9	30	1571	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2008	2546	797	1587	2553	446	1594	0	0	891	0	0
Stage 1	1643	1643	-	899	899	-	-	-	-	-	-	-
Stage 2	365	903	-	688	1654	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	270	82	*590	*606	80	479	*742	-	-	442	-	-
Stage 1	553	543	-	*234	356	-	-	-	-	-	-	-
Stage 2	574	354	-	*606	534	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	131	32	*590	*309	31	479	*742	-	-	442	-	-
Mov Cap-2 Maneuver	131	32	-	*309	31	-	-	-	-	-	-	-
Stage 1	549	213	-	*232	353	-	-	-	-	-	-	-
Stage 2	538	351	-	*236	209	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.2	13	0.1	0.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 742	-	-	214	479	442	-	-
HCM Lane V/C Ratio	0.007	-	-	0.021	0.056	0.068	-	-
HCM Control Delay (s)	9.9	-	-	22.2	13	13.7	-	-
HCM Lane LOS	A	-	-	C	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.2	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	54	14	755	1426	17
Future Vol, veh/h	16	54	14	755	1426	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	60	16	839	1584	19

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1952	792	1603	0	-	0
Stage 1	1584	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Critical Hdwy	6.29	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*449	*496	*742	-	-	-
Stage 1	*449	-	-	-	-	-
Stage 2	*634	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	*439	*496	*742	-	-	-
Mov Cap-2 Maneuver	*401	-	-	-	-	-
Stage 1	*439	-	-	-	-	-
Stage 2	*634	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.1	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	* 742	-	471	-	-
HCM Lane V/C Ratio	0.021	-	0.165	-	-
HCM Control Delay (s)	10	-	14.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	13	22	1	1	1
Future Vol, veh/h	25	13	22	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	14	24	1	1	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	25	0	-	0	95	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	70	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1589	-	-	-	905	1051
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	953	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1589	-	-	-	889	1051
Mov Cap-2 Maneuver	-	-	-	-	889	-
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	953	-

Approach	EB	WB	SB
HCM Control Delay, s	4.8	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1589	-	-	-	1051
HCM Lane V/C Ratio	0.017	-	-	-	0.001
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	1764	33	19	1335	30	0	0	12	0	0	31
Future Vol, veh/h	50	1764	33	19	1335	30	0	0	12	0	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	85	-	150	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	56	1960	37	21	1483	33	0	0	13	0	0	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1516	0	0	1997	0	0	-	-	999	-	-	742
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	*757	-	-	*623	-	-	0	0	*496	0	0	*602
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	*757	-	-	*623	-	-	-	-	*496	-	-	*602
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	12.5	11.3
HCM LOS			B	B

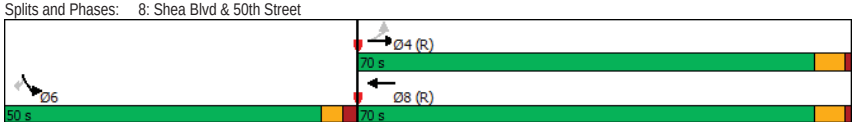
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	496	* 757	-	-	* 623	-	-	602
HCM Lane V/C Ratio	0.027	0.073	-	-	0.034	-	-	0.057
HCM Control Delay (s)	12.5	10.1	-	-	11	-	-	11.3
HCM Lane LOS	B	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.1	-	-	0.2

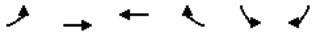
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Phase Number	4	6	8
Movement	EBTL	SBL	WBT
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	Max	C-Max
Maximum Split (s)	70	50	70
Maximum Split (%)	58.3%	41.7%	58.3%
Minimum Split (s)	25.3	29.2	25.3
Yellow Time (s)	4.3	3	4.3
All-Red Time (s)	1	2.2	1
Minimum Initial (s)	15	5	15
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	8	8	8
Flash Dont Walk (s)	12	16	12
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	47	117	47
End Time (s)	117	47	117
Yield/Force Off (s)	111.7	41.8	111.7
Yield/Force Off 170(s)	99.7	25.8	99.7
Local Start Time (s)	0	70	0
Local Yield (s)	64.7	114.8	64.7
Local Yield 170(s)	52.7	98.8	52.7

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	65
Offset: 47 (39%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	

Splits and Phases: 8: Shea Blvd & 50th Street





Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	35	1760	1323	48	67	39	
Future Volume (veh/h)	35	1760	1323	48	67	39	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	39	1956	1470	53	74	43	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	130	2753	1886	68	665	592	
Arrive On Green	0.54	0.54	0.54	0.54	0.37	0.37	
Sat Flow, veh/h	342	5274	3592	126	1781	1585	
Grp Volume(v), veh/h	39	1956	745	778	74	43	
Grp Sat Flow(s),veh/h/ln	342	1702	1777	1848	1781	1585	
Q Serve(g_s), s	12.3	34.3	39.9	40.2	3.3	2.1	
Cycle Q Clear(g_c), s	52.5	34.3	39.9	40.2	3.3	2.1	
Prop In Lane	1.00			0.07	1.00	1.00	
Lane Grp Cap(c), veh/h	130	2753	958	996	665	592	
V/C Ratio(X)	0.30	0.71	0.78	0.78	0.11	0.07	
Avail Cap(c_a), veh/h	130	2753	958	996	665	592	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	42.9	20.7	21.9	22.0	24.6	24.2	
Incr Delay (d2), s/veh	5.8	1.6	6.2	6.1	0.3	0.2	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	2.3	19.7	24.6	25.5	2.6	1.5	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	48.7	22.2	28.1	28.1	24.9	24.5	
LnGrp LOS	D	C	C	C	C	C	
Approach Vol, veh/h		1995	1523		117		
Approach Delay, s/veh		22.8	28.1		24.8		
Approach LOS		C	C		C		

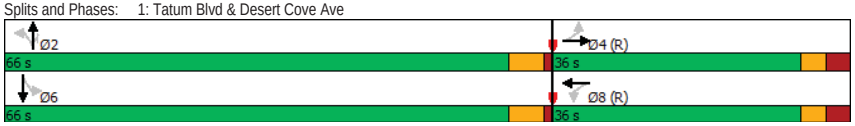
Timer - Assigned Phs				4		6	8
Phs Duration (G+Y+Rc), s				70.0		50.0	70.0
Change Period (Y+Rc), s				5.3		5.2	5.3
Max Green Setting (Gmax), s				64.7		44.8	64.7
Max Q Clear Time (g_c+I1), s				54.5		5.3	42.2
Green Ext Time (p_c), s				8.5		0.3	12.1

Intersection Summary		
HCM 6th Ctrl Delay		25.1
HCM 6th LOS		C

Phase Number	2	4	6	8
Movement	NBTL	EBTL	SBTL	WBTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	None	C-Max	None	C-Max
Maximum Split (s)	66	36	66	36
Maximum Split (%)	64.7%	35.3%	64.7%	35.3%
Minimum Split (s)	25.3	35	25.3	35
Yellow Time (s)	4.3	3	4.3	3
All-Red Time (s)	1	3	1	3
Minimum Initial (s)	15	4	15	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	8	7	8	7
Flash Dont Walk (s)	12	22	12	22
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	86	50	86	50
End Time (s)	50	86	50	86
Yield/Force Off (s)	44.7	80	44.7	80
Yield/Force Off 170(s)	32.7	58	32.7	58
Local Start Time (s)	36	0	36	0
Local Yield (s)	96.7	30	96.7	30
Local Yield 170(s)	84.7	8	84.7	8

Intersection Summary		
Cycle Length		102
Control Type	Actuated-Coordinated	
Natural Cycle		100
Offset: 50 (49%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green		

Splits and Phases: 1: Tatum Blvd & Desert Cove Ave



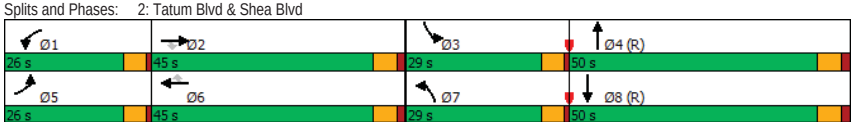
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	1	25	68	1	89	9	1524	36	100	1131	2
Future Volume (veh/h)	25	1	25	68	1	89	9	1524	36	100	1131	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	1	28	76	1	99	10	1693	40	111	1257	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	25	211	223	21	250	277	3039	943	181	3133	5
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	659	84	717	587	73	849	441	5106	1585	279	5265	8
Grp Volume(v), veh/h	57	0	0	176	0	0	10	1693	40	111	813	446
Grp Sat Flow(s),veh/h/ln	1459	0	0	1509	0	0	441	1702	1585	279	1702	1869
Q Serve(g_s), s	0.0	0.0	0.0	6.6	0.0	0.0	1.3	20.5	1.1	40.2	13.0	13.0
Cycle Q Clear(g_c), s	2.5	0.0	0.0	9.2	0.0	0.0	14.2	20.5	1.1	60.7	13.0	13.0
Prop In Lane	0.49		0.49	0.43		0.56	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	482	0	0	494	0	0	277	3039	943	181	2026	1112
V/C Ratio(X)	0.12	0.00	0.00	0.36	0.00	0.00	0.04	0.56	0.04	0.61	0.40	0.40
Avail Cap(c_a), veh/h	482	0	0	494	0	0	277	3039	943	181	2026	1112
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.54	0.54	0.54	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	0.0	0.0	28.6	0.0	0.0	14.8	12.5	8.6	31.0	11.0	11.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	2.0	0.0	0.0	0.0	0.1	0.0	6.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.9	0.0	0.0	6.6	0.0	0.0	0.2	10.5	0.6	5.3	8.1	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	0.0	0.0	30.6	0.0	0.0	14.8	12.6	8.6	37.1	11.1	11.2
LnGrp LOS	C	A	A	C	A	A	B	B	A	D	B	B
Approach Vol, veh/h		57			176			1743			1370	
Approach Delay, s/veh		26.8			30.6			12.6			13.3	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.0		36.0		66.0		36.0				
Change Period (Y+Rc), s		5.3		6.0		5.3		6.0				
Max Green Setting (Gmax), s		60.7		30.0		60.7		30.0				
Max Q Clear Time (g_c+I1), s		22.5		4.5		62.7		11.2				
Green Ext Time (p_c), s		18.9		0.3		0.0		0.9				

Intersection Summary		
HCM 6th Ctrl Delay		14.0
HCM 6th LOS		B

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	SBL	NBT	EBL	WBT	NBL	SBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	C-Max	None	None	None	C-Max
Maximum Split (s)	26	45	29	50	26	45	29	50
Maximum Split (%)	17.3%	30.0%	19.3%	33.3%	17.3%	30.0%	19.3%	33.3%
Minimum Split (s)	10	36.9	20	40	10	36.9	20	40
Yellow Time (s)	4	4.3	4	4.3	4	4.3	4	4.3
All-Red Time (s)	1	1.6	1	1.7	1	1.6	1	1.7
Minimum Initial (s)	5	15	15	15	5	15	15	15
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		8		8		8		8
Flash Dont Walk (s)		23		26		23		26
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	105	131	26	55	105	131	26	55
End Time (s)	131	26	55	105	131	26	55	105
Yield/Force Off (s)	126	20.1	50	99	126	20.1	50	99
Yield/Force Off 170(s)	126	147.1	50	73	126	147.1	50	73
Local Start Time (s)	50	76	121	0	50	76	121	0
Local Yield (s)	71	115.1	145	44	71	115.1	145	44
Local Yield 170(s)	71	92.1	145	18	71	92.1	145	18

Intersection Summary		
Cycle Length		150
Control Type	Actuated-Coordinated	
Natural Cycle		130
Offset: 55 (37%), Referenced to phase 4:NBT and 8:SBT, Start of Green		

Splits and Phases: 2: Tatum Blvd & Shea Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	330	1079	213	175	1392	191	555	995	239	254	608	254
Future Volume (veh/h)	330	1079	213	175	1392	191	555	995	239	254	608	254
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	367	1199	237	194	1547	212	617	1106	266	282	676	282
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	1583	491	247	1331	413	553	1531	368	346	1110	456
Arrive On Green	0.12	0.31	0.31	0.07	0.26	0.26	0.16	0.37	0.37	0.10	0.31	0.31
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	4109	988	3456	3553	1459
Grp Volume(v), veh/h	367	1199	237	194	1547	212	617	916	456	282	647	311
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1702	1693	1728	1702	1608
Q Serve(g_s), s	15.7	31.8	18.2	8.3	39.1	17.1	24.0	34.7	34.7	12.0	24.2	24.7
Cycle Q Clear(g_c), s	15.7	31.8	18.2	8.3	39.1	17.1	24.0	34.7	34.7	12.0	24.2	24.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.58	1.00		0.91
Lane Grp Cap(c), veh/h	417	1583	491	247	1331	413	553	1268	631	346	1064	502
V/C Ratio(X)	0.88	0.76	0.48	0.79	1.16	0.51	1.12	0.72	0.72	0.82	0.61	0.62
Avail Cap(c_a), veh/h	484	1583	491	484	1331	413	553	1268	631	553	1064	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	64.9	46.7	42.0	68.5	55.5	47.3	63.0	40.4	40.4	66.1	43.8	43.9
Incr Delay (d2), s/veh	15.2	2.2	0.7	5.4	81.7	1.1	74.2	3.6	7.0	4.6	2.4	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.4	19.9	11.7	7.0	38.5	11.3	24.1	21.6	22.2	9.2	15.7	15.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.1	48.8	42.7	74.0	137.1	48.4	137.2	44.0	47.5	70.8	46.1	49.1
LnGrp LOS	F	D	D	E	F	D	F	D	D	E	D	D
Approach Vol, veh/h		1803			1953			1989			1240	
Approach Delay, s/veh		54.4			121.2			73.7			52.5	
Approach LOS		D			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.7	52.4	20.0	61.9	23.1	45.0	29.0	52.9
Change Period (Y+Rc), s	5.0	* 5.9	5.0	* 6	5.0	* 5.9	5.0	* 6
Max Green Setting (Gmax), s	21.0	* 39	24.0	* 44	21.0	* 39	24.0	* 44
Max Q Clear Time (g_c+I1), s	10.3	33.8	14.0	36.7	17.7	41.1	26.0	26.7
Green Ext Time (p_c), s	0.4	3.7	0.7	4.9	0.4	0.0	0.0	6.2

Intersection Summary		
HCM 6th Ctrl Delay		78.2
HCM 6th LOS		E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	0	112	1	0	56	49	1757	7	2	884	132
Future Vol, veh/h	21	0	112	1	0	56	49	1757	7	2	884	132
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	0	124	1	0	62	54	1952	8	2	982	147

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1875	3054	491	2461	3197	980	1129	0	0	1960	0	0
Stage 1	986	986	-	2064	2064	-	-	-	-	-	-	-
Stage 2	889	2068	-	397	1133	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	164	18	*718	*58	13	214	737	-	-	131	-	-
Stage 1	726	694	-	*35	96	-	-	-	-	-	-	-
Stage 2	276	95	-	*737	576	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	107	16	*718	*44	12	214	737	-	-	131	-	-
Mov Cap-2 Maneuver	107	16	-	*44	12	-	-	-	-	-	-	-
Stage 1	673	664	-	*32	89	-	-	-	-	-	-	-
Stage 2	181	88	-	*583	551	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	31.1	0.3	0.1
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	737	-	-	718	200	131	-	-
HCM Lane V/C Ratio	0.074	-	-	0.173	0.317	0.017	-	-
HCM Control Delay (s)	10.3	-	-	11.1	31.1	33	-	-
HCM Lane LOS	B	-	-	B	D	D	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.6	1.3	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	1	2	7	0	39	0	1738	3	28	989	4
Future Vol, veh/h	7	1	2	7	0	39	0	1738	3	28	989	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	1	2	8	0	43	0	1931	3	31	1099	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1935	3097	552	2435	3098	967	1103	0	0	1934	0	0
Stage 1	1163	1163	-	1933	1933	-	-	-	-	-	-	-
Stage 2	772	1934	-	502	1165	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	177	18	*682	*70	18	218	*858	-	-	135	-	-
Stage 1	684	656	-	*43	112	-	-	-	-	-	-	-
Stage 2	325	111	-	*700	654	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	75	7	*682	*33	7	218	*858	-	-	135	-	-
Mov Cap-2 Maneuver	75	7	-	*33	7	-	-	-	-	-	-	-
Stage 1	684	266	-	*43	112	-	-	-	-	-	-	-
Stage 2	260	111	-	*282	266	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	119.1	57	0	1.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 858	-	-	42	118	135	-	-
HCM Lane V/C Ratio	-	-	-	0.265	0.433	0.23	-	-
HCM Control Delay (s)	0	-	-	119.1	57	39.5	-	-
HCM Lane LOS	A	-	-	F	F	E	-	-
HCM 95th %tile Q(veh)	0	-	-	0.9	1.9	0.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	18	42	1773	924	57
Future Vol, veh/h	14	18	42	1773	924	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	20	47	1970	1027	63

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1909	514	1090	0	-	0
Stage 1	1027	-	-	-	-	-
Stage 2	882	-	-	-	-	-
Critical Hdwy	6.29	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*338	*702	*1050	-	-	-
Stage 1	*635	-	-	-	-	-
Stage 2	*339	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	*322	*702	*1050	-	-	-
Mov Cap-2 Maneuver	*263	-	-	-	-	-
Stage 1	*607	-	-	-	-	-
Stage 2	*339	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.7	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	* 1050	-	406	-	-
HCM Lane V/C Ratio	0.044	-	0.088	-	-
HCM Control Delay (s)	8.6	-	14.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	24	17	2	1	33
Future Vol, veh/h	11	24	17	2	1	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	27	19	2	1	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	21	0	-	0	71	20
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	51	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1595	-	-	-	933	1058
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1595	-	-	-	926	1058
Mov Cap-2 Maneuver	-	-	-	-	926	-
Stage 1	-	-	-	-	995	-
Stage 2	-	-	-	-	971	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1595	-	-	-	1058
HCM Lane V/C Ratio	0.008	-	-	-	0.035
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	1493	12	8	1738	81	0	0	26	0	0	50
Future Vol, veh/h	36	1493	12	8	1738	81	0	0	26	0	0	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	85	-	150	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	1659	13	9	1931	90	0	0	29	0	0	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2021	0	0	1672	0	0	-	-	836	-	-	966
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	598	-	-	183	-	-	0	0	267	0	0	*514
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	1	-	-		-	-						1
Mov Cap-1 Maneuver	598	-	-	183	-	-	-	-	267	-	-	*514
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	20.1	12.9
HCM LOS			C	B

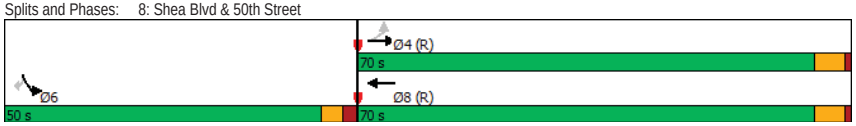
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	267	598	-	-	183	-	-	514
HCM Lane V/C Ratio	0.108	0.067	-	-	0.049	-	-	0.108
HCM Control Delay (s)	20.1	11.5	-	-	25.7	-	-	12.9
HCM Lane LOS	C	B	-	-	D	-	-	B
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0.2	-	-	0.4

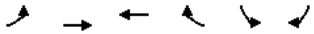
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Phase Number	4	6	8
Movement	EBTL	SBL	WBT
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	Max	C-Max
Maximum Split (s)	70	50	70
Maximum Split (%)	58.3%	41.7%	58.3%
Minimum Split (s)	25.3	29.2	25.3
Yellow Time (s)	4.3	3	4.3
All-Red Time (s)	1	2.2	1
Minimum Initial (s)	15	5	15
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	8	8	8
Flash Dont Walk (s)	12	16	12
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	3	73	3
End Time (s)	73	3	73
Yield/Force Off (s)	67.7	117.8	67.7
Yield/Force Off 170(s)	55.7	101.8	55.7
Local Start Time (s)	0	70	0
Local Yield (s)	64.7	114.8	64.7
Local Yield 170(s)	52.7	98.8	52.7

Intersection Summary		
Cycle Length		120
Control Type	Actuated-Coordinated	
Natural Cycle		90
Offset: 3 (3%), Referenced to phase 4:EBTL and 8:WBT, Start of Green		

Splits and Phases: 8: Shea Blvd & 50th Street





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	52	1499	1803	44	128	65
Future Volume (veh/h)	52	1499	1803	44	128	65
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	1666	2003	49	142	72
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	60	2753	1912	47	665	592
Arrive On Green	0.54	0.54	0.54	0.54	0.37	0.37
Sat Flow, veh/h	205	5274	3639	86	1781	1585
Grp Volume(v), veh/h	58	1666	1000	1052	142	72
Grp Sat Flow(s),veh/h/ln	205	1702	1777	1855	1781	1585
Q Serve(g_s), s	0.0	26.8	64.7	64.7	6.5	3.6
Cycle Q Clear(g_c), s	64.7	26.8	64.7	64.7	6.5	3.6
Prop In Lane	1.00			0.05	1.00	1.00
Lane Grp Cap(c), veh/h	60	2753	958	1000	665	592
V/C Ratio(X)	0.97	0.61	1.04	1.05	0.21	0.12
Avail Cap(c_a), veh/h	60	2753	958	1000	665	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.0	18.9	27.6	27.7	25.6	24.7
Incr Delay (d2), s/veh	107.0	1.0	41.1	43.2	0.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.4	15.9	48.6	51.5	5.2	2.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	167.0	19.9	68.7	70.9	26.3	25.1
LnGrp LOS	F	B	F	F	C	C
Approach Vol, veh/h		1724	2052		214	
Approach Delay, s/veh		24.9	69.8		25.9	
Approach LOS		C	E		C	

Timer - Assigned Phs				4		6	8
Phs Duration (G+Y+Rc), s				70.0		50.0	70.0
Change Period (Y+Rc), s				5.3		5.2	5.3
Max Green Setting (Gmax), s				64.7		44.8	64.7
Max Q Clear Time (g_c+I1), s				66.7		8.5	66.7
Green Ext Time (p_c), s				0.0		0.6	0.0

Intersection Summary			
HCM 6th Ctrl Delay		48.0	
HCM 6th LOS		D	

APPENDIX D

TRIP GENERATION CALCULATIONS

Mountain View Medical Office

Proposed

Trip Generation

January 2017

Appendix D

Land Use Types and Size

Proposed Use	Amount	Units	ITE LUC	ITE Land Use Name
Medical Office	91.318	KSF	720	Medical-Dental Office Building
Medical Office (Existing)	59.969	KSF	720	Medical-Dental Office Building

-Abbreviations: ITE = Institute of Transportation Engineers, LUC = land use code, SF = square feet, KSF = 1,000 square feet, DU = Dwelling Units, Keys = keyed guest units.

Weighted Average Rate or Fitted Curve Equation Used in Analysis?

Proposed Use	ADT	Trips	AM	Trips	PM	Trips	(not used)
Medical Office	Fitted Curve	3,420	Fitted Curve	206	Fitted Curve	312	
Medical Office (Existing)	Fitted Curve	2,216	Fitted Curve	142	Fitted Curve	205	

Notes: -ITE methodology per the *Trip Generation Handbook* is the basis for deciding which rate/equation to use. Exceptions are highlighted.

Note: The proposed minus the existing trips (red text) generated, results in the net number of base trips.

Base Trips	ADT				AM				PM				(not used)
Proposed Use	% In	In	Out	Total	% In	In	Out	Total	% In	In	Out	Total	
Medical Office	50%	1,710	1,710	3,420	78%	161	45	206	28%	87	225	312	
Medical Office (Existing)	50%	1,108	1,108	2,216	78%	111	31	142	28%	57	148	205	
Net		**602**	**602**	**1,204**		**50**	**14**	**64**		**30**	**77**	**107**	

Notes: -Per ITE's *Trip Generation Handbook, 3rd edition*, the rates in the *Trip Generation Manual* represent base trip generation rates for "low-density, single-use, suburban developments with little or no transit service, limited bicycle access, and little or no convenient pedestrian access" and that the "analyst needs to adjust the baseline vehicle trip generation" if the subject development is an infill site, mixed-use development, transit-friendly development, is located within an urban core area or near a school, and/or other conditions.

-The base trips projected for the site are displayed in the table above. The following pages, if any, present appropriate adjustments to the base volumes and/or separate trip types.

APPENDIX E

BACKGROUND TRAFFIC CALCULATIONS

Source(s) http://azmag.gov/Programs/Transportation/System-Analysis-and-Forecasting/Traffic-Volur

Location of counts: Tatum Boulevard north of Shea Boulevard

	Year	Volume	Avg Growth Rate to 2015	Expansion Factor to 2015
Beginning	2015	35,100		
End	2011	33,900	0.9%	1.035

Location of counts: Shea Boulevard East of Tatum Boulevard

	Year	Volume	Avg Growth Rate to 2015	Expansion Factor to 2015
Beginning	2015	45200		
End	2011	39,800	3.2%	0.882

Growth Rate Average 2.1%

Growth Rate Used	2.1%
Per-Year Multiplier	1.021

Year	**Expansion Factor(s)**	
2018	1.000	
2019	1.021	<- Expansion factor to opening year
2020	1.041	
2021	1.063	
2022	1.085	
2023	1.107	
2024	1.129	'<- Expansion factor to 5 years after opening
2025	1.153	
2026	1.176	
2027	1.200	
2028	1.225	
2029	1.250	
2030	1.276	
2031	1.302	
2032	1.329	
2033	1.356	
2034	1.384	
2035	1.412	
2036	1.441	
2037	1.470	
2038	1.501	

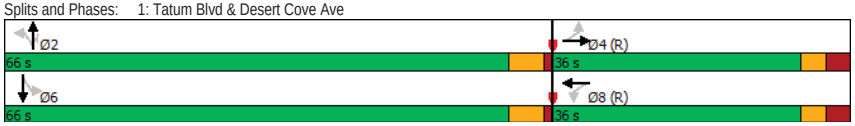
APPENDIX F

PEAK HOUR TRAFFIC ANALYSIS

Phase Number	2	4	6	8
Movement	NBTL	EBTL	SBTL	WBTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	None	C-Max	None	C-Max
Maximum Split (s)	66	36	66	36
Maximum Split (%)	64.7%	35.3%	64.7%	35.3%
Minimum Split (s)	25.3	35	25.3	35
Yellow Time (s)	4.3	3	4.3	3
All-Red Time (s)	1	3	1	3
Minimum Initial (s)	15	4	15	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	8	7	8	7
Flash Dont Walk (s)	12	22	12	22
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	55	19	55	19
End Time (s)	19	55	19	55
Yield/Force Off (s)	13.7	49	13.7	49
Yield/Force Off 170(s)	1.7	27	1.7	27
Local Start Time (s)	36	0	36	0
Local Yield (s)	96.7	30	96.7	30
Local Yield 170(s)	84.7	8	84.7	8

Intersection Summary		
Cycle Length		102
Control Type	Actuated-Coordinated	
Natural Cycle		65
Offset: 19 (19%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green		

Splits and Phases: 1: Tatum Blvd & Desert Cove Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	0	5	20	0	50	30	838	37	87	1111	10
Future Volume (veh/h)	9	0	5	20	0	50	30	838	37	87	1111	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	0	6	22	0	56	33	931	41	97	1234	11
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	476	13	259	230	23	530	173	2102	652	233	2149	19
Arrive On Green	0.48	0.00	0.48	0.48	0.00	0.48	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	877	27	543	387	49	1109	447	5106	1585	578	5220	47
Grp Volume(v), veh/h	16	0	0	78	0	0	33	931	41	97	805	440
Grp Sat Flow(s),veh/h/ln	1447	0	0	1544	0	0	447	1702	1585	578	1702	1862
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	6.3	13.4	1.6	14.8	18.6	18.6
Cycle Q Clear(g_c), s	0.5	0.0	0.0	2.6	0.0	0.0	24.9	13.4	1.6	28.2	18.6	18.6
Prop In Lane	0.62		0.37	0.28		0.72	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	748	0	0	783	0	0	173	2102	652	233	1401	766
V/C Ratio(X)	0.02	0.00	0.00	0.10	0.00	0.00	0.19	0.44	0.06	0.42	0.57	0.57
Avail Cap(c_a), veh/h	748	0	0	783	0	0	255	3039	943	339	2026	1108
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.0	0.0	0.0	14.6	0.0	0.0	32.7	21.6	18.1	31.7	23.1	23.1
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	0.0	0.0	0.4	0.1	0.0	1.2	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	0.0	0.0	1.9	0.0	0.0	1.3	8.7	1.1	3.8	11.8	12.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	0.0	0.0	14.9	0.0	0.0	33.1	21.7	18.2	32.9	23.5	23.8
LnGrp LOS	B	A	A	B	A	A	C	C	B	C	C	C
Approach Vol, veh/h		16			78			1005			1342	
Approach Delay, s/veh		14.1			14.9			21.9			24.3	
Approach LOS		B			B			C			C	

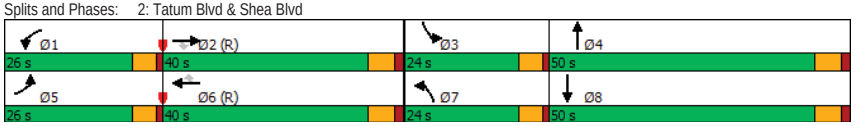
Timer - Assigned Phs		2			4		6		8			
Phs Duration (G+Y+Rc), s		47.3			54.7		47.3		54.7			
Change Period (Y+Rc), s		5.3			6.0		5.3		6.0			
Max Green Setting (Gmax), s		60.7			30.0		60.7		30.0			
Max Q Clear Time (g_c+I1), s		26.9			2.5		30.2		4.6			
Green Ext Time (p_c), s		8.7			0.0		11.8		0.4			

Intersection Summary			
HCM 6th Ctrl Delay		22.9	
HCM 6th LOS		C	

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	SBL	NBT	EBL	WBT	NBL	SBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	26	40	24	50	26	40	24	50
Maximum Split (%)	18.6%	28.6%	17.1%	35.7%	18.6%	28.6%	17.1%	35.7%
Minimum Split (s)	10	36.9	20	40	10	36.9	20	40
Yellow Time (s)	4	4.3	4	4.3	4	4.3	4	4.3
All-Red Time (s)	1	1.6	1	1.7	1	1.6	1	1.7
Minimum Initial (s)	5	15	15	15	5	15	15	15
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		8		8		8		8
Flash Dont Walk (s)		23		26		23		26
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	114	0	40	64	114	0	40	64
End Time (s)	0	40	64	114	0	40	64	114
Yield/Force Off (s)	135	34.1	59	108	135	34.1	59	108
Yield/Force Off 170(s)	135	11.1	59	82	135	11.1	59	82
Local Start Time (s)	114	0	40	64	114	0	40	64
Local Yield (s)	135	34.1	59	108	135	34.1	59	108
Local Yield 170(s)	135	11.1	59	82	135	11.1	59	82

Intersection Summary		
Cycle Length		140
Control Type	Actuated-Coordinated	
Natural Cycle		130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection		

Splits and Phases: 2: Tatum Blvd & Shea Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	1569	488	330	986	186	286	422	226	226	755	117
Future Volume (veh/h)	234	1569	488	330	986	186	286	422	226	226	755	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	260	1743	542	367	1096	207	318	469	251	251	839	130
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	319	1924	597	423	2079	645	373	807	376	370	1055	162
Arrive On Green	0.09	0.38	0.38	0.12	0.41	0.41	0.11	0.24	0.24	0.11	0.24	0.24
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3404	1585	3456	4463	688
Grp Volume(v), veh/h	260	1743	542	367	1096	207	318	469	251	251	639	330
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1702	1585	1728	1702	1747
Q Serve(g_s), s	10.3	45.2	45.3	14.6	22.7	12.5	12.7	17.1	20.1	9.8	24.7	24.9
Cycle Q Clear(g_c), s	10.3	45.2	45.3	14.6	22.7	12.5	12.7	17.1	20.1	9.8	24.7	24.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	319	1924	597	423	2079	645	373	807	376	370	804	413
V/C Ratio(X)	0.82	0.91	0.91	0.87	0.53	0.32	0.85	0.58	0.67	0.68	0.79	0.80
Avail Cap(c_a), veh/h	518	1924	597	518	2079	645	469	1070	498	469	1070	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75	0.75	0.75
Uniform Delay (d), s/veh	62.4	41.3	41.3	60.3	31.3	28.3	61.3	47.2	48.4	60.2	50.3	50.3
Incr Delay (d2), s/veh	5.1	7.6	20.0	12.4	1.0	1.3	11.7	0.7	2.1	2.1	2.3	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.4	27.6	28.4	11.5	14.6	8.7	10.3	11.8	12.9	7.4	15.5	16.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.5	48.9	61.3	72.7	32.3	29.6	73.1	47.9	50.5	62.2	52.6	55.0
LnGrp LOS	E	D	E	E	C	C	E	D	D	E	D	E
Approach Vol, veh/h		2545			1670			1038			1220	
Approach Delay, s/veh		53.5			40.8			56.2			55.2	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.2	58.6	20.0	39.2	17.9	62.9	20.1	39.1
Change Period (Y+Rc), s	5.0	* 5.9	5.0	* 6	5.0	* 5.9	5.0	* 6
Max Green Setting (Gmax), s	21.0	* 34	19.0	* 44	21.0	* 34	19.0	* 44
Max Q Clear Time (g_c+I1), s	16.6	47.3	11.8	22.1	12.3	24.7	14.7	26.9
Green Ext Time (p_c), s	0.6	0.0	0.5	5.0	0.6	5.5	0.5	6.2

Intersection Summary		
HCM 6th Ctrl Delay		51.0
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	0	70	2	0	12	44	852	19	1	1704	94
Future Vol, veh/h	27	0	70	2	0	12	44	852	19	1	1704	94
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	0	78	2	0	13	49	947	21	1	1893	104

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2372	2961	947	1815	3055	484	1997	0	0	968	0	0
Stage 1	1895	1895	-	1056	1056	-	-	-	-	-	-	-
Stage 2	477	1066	-	759	1999	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*212	*47	*514	*528	37	452	622	-	-	406	-	-
Stage 1	*528	*502	-	*182	300	-	-	-	-	-	-	-
Stage 2	*492	*297	-	*528	482	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	*193	*43	*514	*421	34	452	622	-	-	406	-	-
Mov Cap-2 Maneuver	*193	*43	-	*421	34	-	-	-	-	-	-	-
Stage 1	*486	*502	-	*168	276	-	-	-	-	-	-	-
Stage 2	*440	*274	-	*448	482	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.7	13.3	0.5	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	622	-	-	351	447	406	-	-
HCM Lane V/C Ratio	0.079	-	-	0.307	0.035	0.003	-	-
HCM Control Delay (s)	11.3	-	-	19.7	13.3	13.9	-	-
HCM Lane LOS	B	-	-	C	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.3	0.1	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	2	0	0	27	6	896	9	30	1596	24
Future Vol, veh/h	2	0	2	0	0	27	6	896	9	30	1596	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	0	0	30	7	996	10	33	1773	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2265	2873	900	1790	2881	503	1800	0	0	1006	0	0
Stage 1	1853	1853	-	1015	1015	-	-	-	-	-	-	-
Stage 2	412	1020	-	775	1866	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	204	48	*552	*567	47	440	682	-	-	389	-	-
Stage 1	484	486	-	*194	314	-	-	-	-	-	-	-
Stage 2	538	312	-	*567	476	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	177	43	*552	*524	43	440	682	-	-	389	-	-
Mov Cap-2 Maneuver	177	43	-	*524	43	-	-	-	-	-	-	-
Stage 1	479	445	-	*192	311	-	-	-	-	-	-	-
Stage 2	496	309	-	*517	435	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.7	13.8	0.1	0.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	682	-	-	268	440	389	-	-
HCM Lane V/C Ratio	0.01	-	-	0.017	0.068	0.086	-	-
HCM Control Delay (s)	10.3	-	-	18.7	13.8	15.1	-	-
HCM Lane LOS	B	-	-	C	B	C	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	61	16	852	1610	19
Future Vol, veh/h	18	61	16	852	1610	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	68	18	947	1789	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2204	895	1810	0	-	0
Stage 1	1789	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Critical Hdwy	6.29	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*368	*407	*608	-	-	-
Stage 1	*368	-	-	-	-	-
Stage 2	*600	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	*357	*407	*608	-	-	-
Mov Cap-2 Maneuver	*326	-	-	-	-	-
Stage 1	*357	-	-	-	-	-
Stage 2	*600	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	* 608	-	385	-	-
HCM Lane V/C Ratio	0.029	-	0.228	-	-
HCM Control Delay (s)	11.1	-	17.1	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.9	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	15	25	1	1	1
Future Vol, veh/h	28	15	25	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	17	28	1	1	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	108	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	79	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1584	-	-	-	889	1046
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	944	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1584	-	-	-	871	1046
Mov Cap-2 Maneuver	-	-	-	-	871	-
Stage 1	-	-	-	-	974	-
Stage 2	-	-	-	-	944	-

Approach	EB	WB	SB
HCM Control Delay, s	4.8	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1584	-	-	-	1046
HCM Lane V/C Ratio	0.02	-	-	-	0.001
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	1992	37	21	1507	34	0	0	14	0	0	35
Future Vol, veh/h	56	1992	37	21	1507	34	0	0	14	0	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	85	-	150	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	2213	41	23	1674	38	0	0	16	0	0	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1712	0	0	2254	0	0	-	-	1127	-	-	837
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	*701	-	-	*552	-	-	0	0	*439	0	0	*558
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	*701	-	-	*552	-	-	-	-	*439	-	-	*558
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	13.5	11.9
HCM LOS			B	B

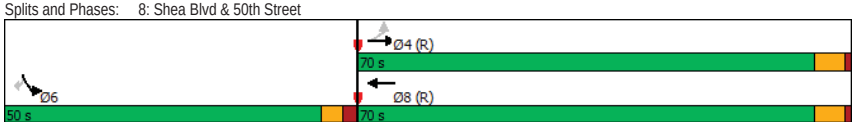
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	439	* 701	-	-	* 552	-	-	558
HCM Lane V/C Ratio	0.035	0.089	-	-	0.042	-	-	0.07
HCM Control Delay (s)	13.5	10.6	-	-	11.8	-	-	11.9
HCM Lane LOS	B	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0.1	-	-	0.2

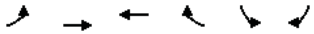
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Phase Number	4	6	8
Movement	EBTL	SBL	WBT
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	Max	C-Max
Maximum Split (s)	70	50	70
Maximum Split (%)	58.3%	41.7%	58.3%
Minimum Split (s)	25.3	29.2	25.3
Yellow Time (s)	4.3	3	4.3
All-Red Time (s)	1	2.2	1
Minimum Initial (s)	15	5	15
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	8	8	8
Flash Dont Walk (s)	12	16	12
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	47	117	47
End Time (s)	117	47	117
Yield/Force Off (s)	111.7	41.8	111.7
Yield/Force Off 170(s)	99.7	25.8	99.7
Local Start Time (s)	0	70	0
Local Yield (s)	64.7	114.8	64.7
Local Yield 170(s)	52.7	98.8	52.7

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	75
Offset: 47 (39%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	

Splits and Phases: 8: Shea Blvd & 50th Street





Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	40	1987	1494	54	76	44	
Future Volume (veh/h)	40	1987	1494	54	76	44	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	44	2208	1660	60	84	49	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	94	2753	1886	68	665	592	
Arrive On Green	0.54	0.54	0.54	0.54	0.37	0.37	
Sat Flow, veh/h	283	5274	3592	126	1781	1585	
Grp Volume(v), veh/h	44	2208	840	880	84	49	
Grp Sat Flow(s),veh/h/ln	283	1702	1777	1848	1781	1585	
Q Serve(g_s), s	14.4	42.1	49.6	50.3	3.7	2.4	
Cycle Q Clear(g_c), s	64.7	42.1	49.6	50.3	3.7	2.4	
Prop In Lane	1.00			0.07	1.00	1.00	
Lane Grp Cap(c), veh/h	94	2753	958	996	665	592	
V/C Ratio(X)	0.47	0.80	0.88	0.88	0.13	0.08	
Avail Cap(c_a), veh/h	94	2753	958	996	665	592	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	54.4	22.4	24.2	24.3	24.7	24.3	
Incr Delay (d2), s/veh	15.8	2.6	11.1	11.3	0.4	0.3	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	3.2	23.6	30.7	32.2	3.0	1.7	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	70.2	25.0	35.3	35.6	25.1	24.6	
LnGrp LOS	E	C	D	D	C	C	
Approach Vol, veh/h		2252	1720		133		
Approach Delay, s/veh		25.9	35.5		24.9		
Approach LOS		C	D		C		

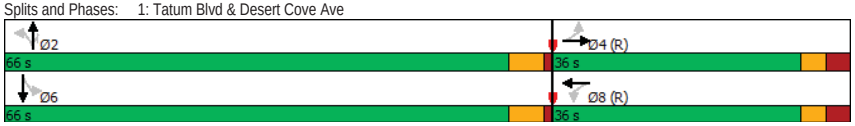
Timer - Assigned Phs			4		6	8
Phs Duration (G+Y+Rc), s			70.0		50.0	70.0
Change Period (Y+Rc), s			5.3		5.2	5.3
Max Green Setting (Gmax), s			64.7		44.8	64.7
Max Q Clear Time (g_c+I1), s			66.7		5.7	52.3
Green Ext Time (p_c), s			0.0		0.4	9.1

Intersection Summary		
HCM 6th Ctrl Delay		29.9
HCM 6th LOS		C

Phase Number	2	4	6	8
Movement	NBTL	EBTL	SBTL	WBTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	None	C-Max	None	C-Max
Maximum Split (s)	66	36	66	36
Maximum Split (%)	64.7%	35.3%	64.7%	35.3%
Minimum Split (s)	25.3	35	25.3	35
Yellow Time (s)	4.3	3	4.3	3
All-Red Time (s)	1	3	1	3
Minimum Initial (s)	15	4	15	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	8	7	8	7
Flash Dont Walk (s)	12	22	12	22
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	86	50	86	50
End Time (s)	50	86	50	86
Yield/Force Off (s)	44.7	80	44.7	80
Yield/Force Off 170(s)	32.7	58	32.7	58
Local Start Time (s)	36	0	36	0
Local Yield (s)	96.7	30	96.7	30
Local Yield 170(s)	84.7	8	84.7	8

Intersection Summary		
Cycle Length		102
Control Type	Actuated-Coordinated	
Natural Cycle		150
Offset: 50 (49%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green		

Splits and Phases: 1: Tatum Blvd & Desert Cove Ave



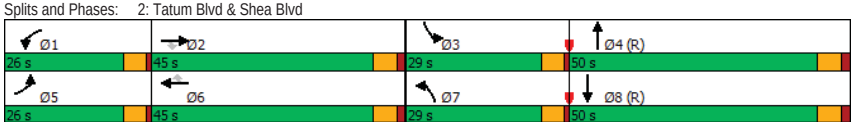
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	1	28	77	1	100	10	1721	41	113	1277	2
Future Volume (veh/h)	28	1	28	77	1	100	10	1721	41	113	1277	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	1	31	86	1	111	11	1912	46	126	1419	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	24	208	225	21	249	239	3039	943	150	3134	4
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	647	81	706	592	72	847	378	5106	1585	224	5266	7
Grp Volume(v), veh/h	63	0	0	198	0	0	11	1912	46	126	917	504
Grp Sat Flow(s),veh/h/ln	1434	0	0	1510	0	0	378	1702	1585	224	1702	1869
Q Serve(g_s), s	0.0	0.0	0.0	7.6	0.0	0.0	1.7	24.7	1.2	36.0	15.2	15.2
Cycle Q Clear(g_c), s	2.9	0.0	0.0	10.5	0.0	0.0	16.9	24.7	1.2	60.7	15.2	15.2
Prop In Lane	0.49		0.49	0.43		0.56	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	474	0	0	495	0	0	239	3039	943	150	2026	1112
V/C Ratio(X)	0.13	0.00	0.00	0.40	0.00	0.00	0.05	0.63	0.05	0.84	0.45	0.45
Avail Cap(c_a), veh/h	474	0	0	495	0	0	239	3039	943	150	2026	1112
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.34	0.34	0.34	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	0.0	0.0	29.0	0.0	0.0	16.1	13.4	8.6	39.7	11.4	11.4
Incr Delay (d2), s/veh	0.6	0.0	0.0	2.4	0.0	0.0	0.0	0.1	0.0	32.9	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	0.0	0.0	7.6	0.0	0.0	0.3	11.6	0.7	8.1	9.2	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	0.0	0.0	31.4	0.0	0.0	16.2	13.5	8.6	72.6	11.6	11.7
LnGrp LOS	C	A	A	C	A	A	B	B	A	E	B	B
Approach Vol, veh/h		63			198			1969			1547	
Approach Delay, s/veh		27.0			31.4			13.4			16.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.0		36.0		66.0		36.0				
Change Period (Y+Rc), s		5.3		6.0		5.3		6.0				
Max Green Setting (Gmax), s		60.7		30.0		60.7		30.0				
Max Q Clear Time (g_c+I1), s		26.7		4.9		62.7		12.5				
Green Ext Time (p_c), s		20.9		0.3		0.0		1.0				

Intersection Summary		
HCM 6th Ctrl Delay		15.9
HCM 6th LOS		B

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	SBL	NBT	EBL	WBT	NBL	SBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	C-Max	None	None	None	C-Max
Maximum Split (s)	26	45	29	50	26	45	29	50
Maximum Split (%)	17.3%	30.0%	19.3%	33.3%	17.3%	30.0%	19.3%	33.3%
Minimum Split (s)	10	36.9	20	40	10	36.9	20	40
Yellow Time (s)	4	4.3	4	4.3	4	4.3	4	4.3
All-Red Time (s)	1	1.6	1	1.7	1	1.6	1	1.7
Minimum Initial (s)	5	15	15	15	5	15	15	15
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		8		8		8		8
Flash Dont Walk (s)		23		26		23		26
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	105	131	26	55	105	131	26	55
End Time (s)	131	26	55	105	131	26	55	105
Yield/Force Off (s)	126	20.1	50	99	126	20.1	50	99
Yield/Force Off 170(s)	126	147.1	50	73	126	147.1	50	73
Local Start Time (s)	50	76	121	0	50	76	121	0
Local Yield (s)	71	115.1	145	44	71	115.1	145	44
Local Yield 170(s)	71	92.1	145	18	71	92.1	145	18

Intersection Summary		
Cycle Length		150
Control Type	Actuated-Coordinated	
Natural Cycle		150
Offset: 55 (37%), Referenced to phase 4:NBT and 8:SBT, Start of Green		

Splits and Phases: 2: Tatum Blvd & Shea Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	373	1218	240	198	1572	216	627	1123	270	287	686	287
Future Volume (veh/h)	373	1218	240	198	1572	216	627	1123	270	287	686	287
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	414	1353	267	220	1747	240	697	1248	300	319	762	319
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	1605	498	274	1331	413	553	1445	347	376	1064	441
Arrive On Green	0.13	0.31	0.31	0.08	0.26	0.26	0.16	0.35	0.35	0.11	0.30	0.30
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	4109	987	3456	3541	1469
Grp Volume(v), veh/h	414	1353	267	220	1747	240	697	1034	514	319	732	349
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1702	1693	1728	1702	1606
Q Serve(g_s), s	17.7	37.1	20.8	9.4	39.1	19.8	24.0	42.4	42.4	13.6	28.8	29.1
Cycle Q Clear(g_c), s	17.7	37.1	20.8	9.4	39.1	19.8	24.0	42.4	42.4	13.6	28.8	29.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.58	1.00		0.91
Lane Grp Cap(c), veh/h	459	1605	498	274	1331	413	553	1197	595	376	1023	483
V/C Ratio(X)	0.90	0.84	0.54	0.80	1.31	0.58	1.26	0.86	0.86	0.85	0.72	0.72
Avail Cap(c_a), veh/h	484	1605	498	484	1331	413	553	1197	595	553	1023	483
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	64.1	48.0	42.4	67.9	55.5	48.3	63.0	45.3	45.3	65.6	46.8	46.9
Incr Delay (d2), s/veh	19.3	4.3	1.1	5.5	146.1	2.0	131.3	8.4	15.4	7.2	3.8	8.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.0	23.0	13.2	7.8	51.4	12.8	31.2	26.5	27.8	10.3	18.3	18.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.4	52.2	43.5	73.4	201.6	50.4	194.3	53.7	60.6	72.8	50.6	54.9
LnGrp LOS	F	D	D	E	F	D	F	D	E	E	D	D
Approach Vol, veh/h		2034			2207			2245			1400	
Approach Delay, s/veh		57.4			172.3			98.9			56.7	
Approach LOS		E			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	53.1	21.3	58.7	24.9	45.0	29.0	51.1
Change Period (Y+Rc), s	5.0	* 5.9	5.0	* 6	5.0	* 5.9	5.0	* 6
Max Green Setting (Gmax), s	21.0	* 39	24.0	* 44	21.0	* 39	24.0	* 44
Max Q Clear Time (g_c+I1), s	11.4	39.1	15.6	44.4	19.7	41.1	26.0	31.1
Green Ext Time (p_c), s	0.5	0.0	0.7	0.0	0.2	0.0	0.0	6.0

Intersection Summary		
HCM 6th Ctrl Delay		101.3
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	0	126	1	0	63	55	1984	8	2	998	149
Future Vol, veh/h	24	0	126	1	0	63	55	1984	8	2	998	149
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	140	1	0	70	61	2204	9	2	1109	166

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2117	3448	555	2779	3610	1107	1275	0	0	2213	0	0
Stage 1	1113	1113	-	2331	2331	-	-	-	-	-	-	-
Stage 2	1004	2335	-	448	1279	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*127	*9	*682	*36	6	176	720	-	-	97	-	-
Stage 1	*700	*666	-	*22	70	-	-	-	-	-	-	-
Stage 2	*234	*69	-	*700	562	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	*67	*8	*682	*25	5	176	720	-	-	97	-	-
Mov Cap-2 Maneuver	*67	*8	-	*25	5	-	-	-	-	-	-	-
Stage 1	*641	*616	-	*20	64	-	-	-	-	-	-	-
Stage 2	*129	*63	-	*515	520	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	44	0.3	0.1
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	720	-	-	682	161	97	-	-
HCM Lane V/C Ratio	0.085	-	-	0.205	0.442	0.023	-	-
HCM Control Delay (s)	10.5	-	-	11.6	44	43	-	-
HCM Lane LOS	B	-	-	B	E	E	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.8	2	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1	2	8	0	44	0	1962	3	32	1117	5
Future Vol, veh/h	8	1	2	8	0	44	0	1962	3	32	1117	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	1	2	9	0	49	0	2180	3	36	1241	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2188	3499	624	2751	3501	1092	1247	0	0	2183	0	0
Stage 1	1316	1316	-	2182	2182	-	-	-	-	-	-	-
Stage 2	872	2183	-	569	1319	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*133	*8	*647	*44	*8	180	*814	-	-	101	-	-
Stage 1	*664	*632	-	*28	*83	-	-	-	-	-	-	-
Stage 2	*282	*83	-	*664	*632	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	*70	*5	*647	*26	*5	180	*814	-	-	101	-	-
Mov Cap-2 Maneuver	*70	*5	-	*26	*5	-	-	-	-	-	-	-
Stage 1	*664	*407	-	*28	*83	-	-	-	-	-	-	-
Stage 2	*205	*83	-	*425	*407	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	155.3	91.2	0	1.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 814	-	-	35	94	101	-	-
HCM Lane V/C Ratio	-	-	-	0.349	0.615	0.352	-	-
HCM Control Delay (s)	0	-	-	155.3	91.2	58.9	-	-
HCM Lane LOS	A	-	-	F	F	F	-	-
HCM 95th %tile Q(veh)	0	-	-	1.1	2.9	1.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	20	47	2002	1043	64
Future Vol, veh/h	16	20	47	2002	1043	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	22	52	2224	1159	71

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2153	580	1230	0	-	0
Stage 1	1159	-	-	-	-	-
Stage 2	994	-	-	-	-	-
Critical Hdwy	6.29	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*299	*639	*956	-	-	-
Stage 1	*579	-	-	-	-	-
Stage 2	*294	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	*283	*639	*956	-	-	-
Mov Cap-2 Maneuver	*214	-	-	-	-	-
Stage 1	*547	-	-	-	-	-
Stage 2	*294	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	* 956	-	339	-	-
HCM Lane V/C Ratio	0.055	-	0.118	-	-
HCM Control Delay (s)	9	-	17	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	27	19	2	1	37
Future Vol, veh/h	12	27	19	2	1	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	30	21	2	1	41

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	78	22
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	56	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	925	1055
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	967	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	918	1055
Mov Cap-2 Maneuver	-	-	-	-	918	-
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	1055
HCM Lane V/C Ratio	0.008	-	-	-	0.039
HCM Control Delay (s)	7.3	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	1686	14	9	1962	91	0	0	29	0	0	56
Future Vol, veh/h	41	1686	14	9	1962	91	0	0	29	0	0	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	85	-	150	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	1873	16	10	2180	101	0	0	32	0	0	62

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2281	0	0	1889	0	0	-	-	945	-	-	1090
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	*563	-	-	142	-	-	0	0	226	0	0	*447
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	1	-	-		-	-						1
Mov Cap-1 Maneuver	*563	-	-	142	-	-	-	-	226	-	-	*447
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	23.6	14.4
HCM LOS			C	B

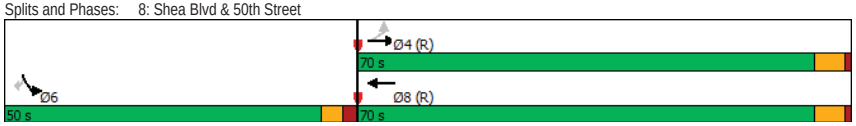
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	226	* 563	-	-	142	-	-	447
HCM Lane V/C Ratio	0.143	0.081	-	-	0.07	-	-	0.139
HCM Control Delay (s)	23.6	12	-	-	32.3	-	-	14.4
HCM Lane LOS	C	B	-	-	D	-	-	B
HCM 95th %tile Q(veh)	0.5	0.3	-	-	0.2	-	-	0.5

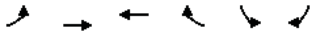
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Phase Number	4	6	8
Movement	EBTL	SBL	WBT
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	Max	C-Max
Maximum Split (s)	70	50	70
Maximum Split (%)	58.3%	41.7%	58.3%
Minimum Split (s)	25.3	29.2	25.3
Yellow Time (s)	4.3	3	4.3
All-Red Time (s)	1	2.2	1
Minimum Initial (s)	15	5	15
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	8	8	8
Flash Dont Walk (s)	12	16	12
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	3	73	3
End Time (s)	73	3	73
Yield/Force Off (s)	67.7	117.8	67.7
Yield/Force Off 170(s)	55.7	101.8	55.7
Local Start Time (s)	0	70	0
Local Yield (s)	64.7	114.8	64.7
Local Yield 170(s)	52.7	98.8	52.7

Intersection Summary		
Cycle Length		120
Control Type	Actuated-Coordinated	
Natural Cycle		100
Offset: 3 (3%), Referenced to phase 4:EBTL and 8:WBT, Start of Green		

Splits and Phases: 8: Shea Blvd & 50th Street





Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	59	1692	2036	50	145	73	
Future Volume (veh/h)	59	1692	2036	50	145	73	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	66	1880	2262	56	161	81	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	60	2753	1911	47	665	592	
Arrive On Green	0.54	0.54	0.54	0.54	0.37	0.37	
Sat Flow, veh/h	157	5274	3638	87	1781	1585	
Grp Volume(v), veh/h	66	1880	1129	1189	161	81	
Grp Sat Flow(s),veh/h/ln	157	1702	1777	1855	1781	1585	
Q Serve(g_s), s	0.0	32.2	64.7	64.7	7.5	4.0	
Cycle Q Clear(g_c), s	64.7	32.2	64.7	64.7	7.5	4.0	
Prop In Lane	1.00			0.05	1.00	1.00	
Lane Grp Cap(c), veh/h	60	2753	958	1000	665	592	
V/C Ratio(X)	1.10	0.68	1.18	1.19	0.24	0.14	
Avail Cap(c_a), veh/h	60	2753	958	1000	665	592	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	60.0	20.2	27.6	27.7	25.9	24.8	
Incr Delay (d2), s/veh	146.4	1.4	91.4	95.1	0.9	0.5	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	7.7	18.6	70.2	74.8	6.0	2.9	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	206.4	21.6	119.0	122.7	26.8	25.3	
LnGrp LOS	F	C	F	F	C	C	
Approach Vol, veh/h		1946	2318		242		
Approach Delay, s/veh		27.8	120.9		26.3		
Approach LOS		C	F		C		

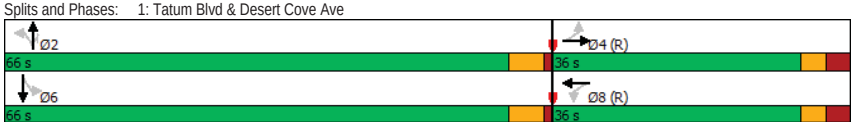
Timer - Assigned Phs			4		6	8
Phs Duration (G+Y+Rc), s			70.0		50.0	70.0
Change Period (Y+Rc), s			5.3		5.2	5.3
Max Green Setting (Gmax), s			64.7		44.8	64.7
Max Q Clear Time (g_c+I1), s			66.7		9.5	66.7
Green Ext Time (p_c), s			0.0		0.7	0.0

Intersection Summary		
HCM 6th Ctrl Delay	75.6	
HCM 6th LOS	E	

Phase Number	2	4	6	8
Movement	NBTL	EBTL	SBTL	WBTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	None	C-Max	None	C-Max
Maximum Split (s)	66	36	66	36
Maximum Split (%)	64.7%	35.3%	64.7%	35.3%
Minimum Split (s)	25.3	35	25.3	35
Yellow Time (s)	4.3	3	4.3	3
All-Red Time (s)	1	3	1	3
Minimum Initial (s)	15	4	15	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	8	7	8	7
Flash Dont Walk (s)	12	22	12	22
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	55	19	55	19
End Time (s)	19	55	19	55
Yield/Force Off (s)	13.7	49	13.7	49
Yield/Force Off 170(s)	1.7	27	1.7	27
Local Start Time (s)	36	0	36	0
Local Yield (s)	96.7	30	96.7	30
Local Yield 170(s)	84.7	8	84.7	8

Intersection Summary		
Cycle Length		102
Control Type	Actuated-Coordinated	
Natural Cycle		65
Offset: 19 (19%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green		

Splits and Phases: 1: Tatum Blvd & Desert Cove Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	0	5	20	0	50	30	840	37	87	1118	10
Future Volume (veh/h)	9	0	5	20	0	50	30	840	37	87	1118	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	0	6	22	0	56	33	933	41	97	1242	11
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	475	13	259	230	23	528	172	2107	654	233	2154	19
Arrive On Green	0.48	0.00	0.48	0.48	0.00	0.48	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	877	27	543	387	49	1109	443	5106	1585	577	5220	46
Grp Volume(v), veh/h	16	0	0	78	0	0	33	933	41	97	810	443
Grp Sat Flow(s),veh/h/ln	1447	0	0	1544	0	0	443	1702	1585	577	1702	1862
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	6.3	13.4	1.6	14.8	18.7	18.7
Cycle Q Clear(g_c), s	0.5	0.0	0.0	2.6	0.0	0.0	25.0	13.4	1.6	28.2	18.7	18.7
Prop In Lane	0.62		0.37	0.28		0.72	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	747	0	0	781	0	0	172	2107	654	233	1405	769
V/C Ratio(X)	0.02	0.00	0.00	0.10	0.00	0.00	0.19	0.44	0.06	0.42	0.58	0.58
Avail Cap(c_a), veh/h	747	0	0	781	0	0	253	3039	943	338	2026	1108
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.1	0.0	0.0	14.7	0.0	0.0	32.7	21.5	18.1	31.7	23.1	23.1
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	0.0	0.0	0.4	0.1	0.0	1.2	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	0.0	0.0	1.9	0.0	0.0	1.3	8.7	1.1	3.8	11.8	12.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.2	0.0	0.0	14.9	0.0	0.0	33.2	21.6	18.1	32.8	23.5	23.8
LnGrp LOS	B	A	A	B	A	A	C	C	B	C	C	C
Approach Vol, veh/h		16			78			1007			1350	
Approach Delay, s/veh		14.2			14.9			21.9			24.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.4		54.6		47.4		54.6				
Change Period (Y+Rc), s		5.3		6.0		5.3		6.0				
Max Green Setting (Gmax), s		60.7		30.0		60.7		30.0				
Max Q Clear Time (g_c+I1), s		27.0		2.5		30.2		4.6				
Green Ext Time (p_c), s		8.7		0.0		11.9		0.4				

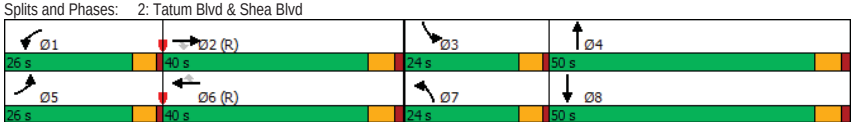
Intersection Summary		
HCM 6th Ctrl Delay	22.9	
HCM 6th LOS	C	

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	SBL	NBT	EBL	WBT	NBL	SBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	26	40	24	50	26	40	24	50
Maximum Split (%)	18.6%	28.6%	17.1%	35.7%	18.6%	28.6%	17.1%	35.7%
Minimum Split (s)	10	36.9	20	40	10	36.9	20	40
Yellow Time (s)	4	4.3	4	4.3	4	4.3	4	4.3
All-Red Time (s)	1	1.6	1	1.7	1	1.6	1	1.7
Minimum Initial (s)	5	15	15	15	5	15	15	15
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		8		8		8		8
Flash Dont Walk (s)		23		26		23		26
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	114	0	40	64	114	0	40	64
End Time (s)	0	40	64	114	0	40	64	114
Yield/Force Off (s)	135	34.1	59	108	135	34.1	59	108
Yield/Force Off 170(s)	135	11.1	59	82	135	11.1	59	82
Local Start Time (s)	114	0	40	64	114	0	40	64
Local Yield (s)	135	34.1	59	108	135	34.1	59	108
Local Yield 170(s)	135	11.1	59	82	135	11.1	59	82

Intersection Summary		
Cycle Length		140
Control Type	Actuated-Coordinated	
Natural Cycle		130

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection

Splits and Phases: 2: Tatum Blvd & Shea Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	1586	492	330	986	186	292	424	226	229	758	117
Future Volume (veh/h)	234	1586	492	330	986	186	292	424	226	229	758	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	260	1762	547	367	1096	207	324	471	251	254	842	130
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	319	1912	594	423	2067	642	379	815	379	370	1058	162
Arrive On Green	0.09	0.37	0.37	0.12	0.40	0.40	0.11	0.24	0.24	0.11	0.24	0.24
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3404	1585	3456	4465	686
Grp Volume(v), veh/h	260	1762	547	367	1096	207	324	471	251	254	641	331
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1702	1585	1728	1702	1747
Q Serve(g_s), s	10.3	46.1	46.1	14.6	22.8	12.5	12.9	17.1	20.0	9.9	24.8	25.0
Cycle Q Clear(g_c), s	10.3	46.1	46.1	14.6	22.8	12.5	12.9	17.1	20.0	9.9	24.8	25.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	319	1912	594	423	2067	642	379	815	379	370	806	414
V/C Ratio(X)	0.82	0.92	0.92	0.87	0.53	0.32	0.86	0.58	0.66	0.69	0.79	0.80
Avail Cap(c_a), veh/h	518	1912	594	518	2067	642	469	1070	498	469	1070	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	62.4	41.8	41.8	60.3	31.6	28.5	61.2	47.0	48.1	60.2	50.2	50.3
Incr Delay (d2), s/veh	5.1	8.8	21.9	12.4	1.0	1.3	12.2	0.7	2.0	2.2	2.3	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.4	28.3	29.1	11.5	14.7	8.7	10.4	11.8	12.9	7.5	15.5	16.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.5	50.6	63.7	72.7	32.5	29.8	73.4	47.7	50.2	62.4	52.5	55.0
LnGrp LOS	E	D	E	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		2569			1670			1046			1226	
Approach Delay, s/veh		55.1			41.0			56.2			55.2	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.2	58.3	20.0	39.5	17.9	62.6	20.3	39.2
Change Period (Y+Rc), s	5.0	* 5.9	5.0	* 6	5.0	* 5.9	5.0	* 6
Max Green Setting (Gmax), s	21.0	* 34	19.0	* 44	21.0	* 34	19.0	* 44
Max Q Clear Time (g_c+I1), s	16.6	48.1	11.9	22.0	12.3	24.8	14.9	27.0
Green Ext Time (p_c), s	0.6	0.0	0.5	5.0	0.6	5.4	0.5	6.2

Intersection Summary		
HCM 6th Ctrl Delay		51.7
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	0	70	4	0	16	44	856	27	1	1712	94
Future Vol, veh/h	27	0	70	4	0	16	44	856	27	1	1712	94
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	0	78	4	0	18	49	951	30	1	1902	104

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2382	2983	951	1827	3072	491	2006	0	0	981	0	0
Stage 1	1904	1904	-	1064	1064	-	-	-	-	-	-	-
Stage 2	478	1079	-	763	2008	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*207	*44	*514	*528	35	448	611	-	-	400	-	-
Stage 1	*528	*502	-	*180	298	-	-	-	-	-	-	-
Stage 2	*491	*293	-	*528	475	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	*187	*41	*514	*421	33	448	611	-	-	400	-	-
Mov Cap-2 Maneuver	*187	*41	-	*421	33	-	-	-	-	-	-	-
Stage 1	*486	*502	-	*166	274	-	-	-	-	-	-	-
Stage 2	*434	*270	-	*448	475	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20	13.6	0.5	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	611	-	-	346	442	400	-	-
HCM Lane V/C Ratio	0.08	-	-	0.311	0.05	0.003	-	-
HCM Control Delay (s)	11.4	-	-	20	13.6	14	-	-
HCM Lane LOS	B	-	-	C	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.3	0.2	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	2	2	0	31	6	904	17	38	1598	24
Future Vol, veh/h	2	0	2	2	0	31	6	904	17	38	1598	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	2	0	34	7	1004	19	42	1776	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2290	2911	902	1822	2915	512	1803	0	0	1023	0	0
Stage 1	1874	1874	-	1028	1028	-	-	-	-	-	-	-
Stage 2	416	1037	-	794	1887	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*222	*48	*533	*547	48	434	*671	-	-	382	-	-
Stage 1	*547	*521	-	*190	310	-	-	-	-	-	-	-
Stage 2	*535	*307	-	*547	517	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	*185	*43	*533	*495	42	434	*671	-	-	382	-	-
Mov Cap-2 Maneuver	*185	*43	-	*495	42	-	-	-	-	-	-	-
Stage 1	*542	*463	-	*188	307	-	-	-	-	-	-	-
Stage 2	*487	*304	-	*485	460	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.3	14	0.1	0.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 671	-	-	275	437	382	-	-
HCM Lane V/C Ratio	0.01	-	-	0.016	0.084	0.111	-	-
HCM Control Delay (s)	10.4	-	-	18.3	14	15.6	-	-
HCM Lane LOS	B	-	-	C	B	C	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	61	16	867	1614	19
Future Vol, veh/h	20	61	16	867	1614	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	68	18	963	1793	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2214	897	1814	0	-	0
Stage 1	1793	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Critical Hdwy	6.29	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*368	*407	*608	-	-	-
Stage 1	*368	-	-	-	-	-
Stage 2	*595	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	*357	*407	*608	-	-	-
Mov Cap-2 Maneuver	*326	-	-	-	-	-
Stage 1	*357	-	-	-	-	-
Stage 2	*595	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.3	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	* 608	-	383	-	-
HCM Lane V/C Ratio	0.029	-	0.235	-	-
HCM Control Delay (s)	11.1	-	17.3	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.9	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	15	25	1	1	7
Future Vol, veh/h	44	15	25	1	1	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	17	28	1	1	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	144	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	115	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1584	-	-	-	849	1046
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	910	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1584	-	-	-	823	1046
Mov Cap-2 Maneuver	-	-	-	-	823	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	910	-

Approach	EB	WB	SB
HCM Control Delay, s	5.5	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1584	-	-	-	1046
HCM Lane V/C Ratio	0.031	-	-	-	0.007
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	1992	57	27	1507	34	0	0	16	0	0	35
Future Vol, veh/h	56	1992	57	27	1507	34	0	0	16	0	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	85	-	150	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	2213	63	30	1674	38	0	0	18	0	0	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1712	0	0	2276	0	0	-	-	1138	-	-	837
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	*701	-	-	*552	-	-	0	0	*439	0	0	*558
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	*701	-	-	*552	-	-	-	-	*439	-	-	*558
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	13.5	11.9
HCM LOS			B	B

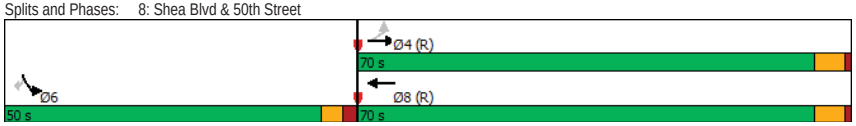
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	439	* 701	-	-	* 552	-	-	558
HCM Lane V/C Ratio	0.04	0.089	-	-	0.054	-	-	0.07
HCM Control Delay (s)	13.5	10.6	-	-	11.9	-	-	11.9
HCM Lane LOS	B	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0.2	-	-	0.2

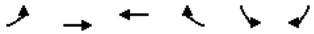
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Phase Number	4	6	8
Movement	EBTL	SBL	WBT
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	Max	C-Max
Maximum Split (s)	70	50	70
Maximum Split (%)	58.3%	41.7%	58.3%
Minimum Split (s)	25.3	29.2	25.3
Yellow Time (s)	4.3	3	4.3
All-Red Time (s)	1	2.2	1
Minimum Initial (s)	15	5	15
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	8	8	8
Flash Dont Walk (s)	12	16	12
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	47	117	47
End Time (s)	117	47	117
Yield/Force Off (s)	111.7	41.8	111.7
Yield/Force Off 170(s)	99.7	25.8	99.7
Local Start Time (s)	0	70	0
Local Yield (s)	64.7	114.8	64.7
Local Yield 170(s)	52.7	98.8	52.7

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	75
Offset: 47 (39%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	

Splits and Phases: 8: Shea Blvd & 50th Street





Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	40	1989	1500	54	76	44	
Future Volume (veh/h)	40	1989	1500	54	76	44	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	44	2210	1667	60	84	49	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	93	2753	1887	68	665	592	
Arrive On Green	0.54	0.54	0.54	0.54	0.37	0.37	
Sat Flow, veh/h	281	5274	3593	125	1781	1585	
Grp Volume(v), veh/h	44	2210	843	884	84	49	
Grp Sat Flow(s),veh/h/ln	281	1702	1777	1848	1781	1585	
Q Serve(g_s), s	14.0	42.2	50.0	50.7	3.7	2.4	
Cycle Q Clear(g_c), s	64.7	42.2	50.0	50.7	3.7	2.4	
Prop In Lane	1.00			0.07	1.00	1.00	
Lane Grp Cap(c), veh/h	93	2753	958	996	665	592	
V/C Ratio(X)	0.47	0.80	0.88	0.89	0.13	0.08	
Avail Cap(c_a), veh/h	93	2753	958	996	665	592	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	54.8	22.5	24.3	24.4	24.7	24.3	
Incr Delay (d2), s/veh	16.3	2.6	11.4	11.5	0.4	0.3	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	3.2	23.6	31.0	32.4	3.0	1.7	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	71.1	25.1	35.7	36.0	25.1	24.6	
LnGrp LOS	E	C	D	D	C	C	
Approach Vol, veh/h		2254	1727		133		
Approach Delay, s/veh		25.9	35.8		24.9		
Approach LOS		C	D		C		

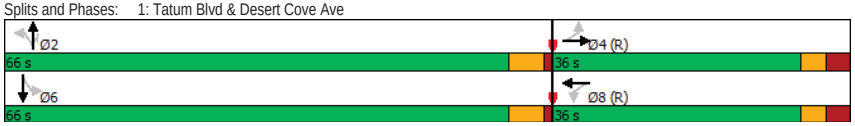
Timer - Assigned Phs				4		6	8
Phs Duration (G+Y+Rc), s				70.0		50.0	70.0
Change Period (Y+Rc), s				5.3		5.2	5.3
Max Green Setting (Gmax), s				64.7		44.8	64.7
Max Q Clear Time (g_c+I1), s				66.7		5.7	52.7
Green Ext Time (p_c), s				0.0		0.4	8.9

Intersection Summary		
HCM 6th Ctrl Delay	30.1	
HCM 6th LOS	C	

Phase Number	2	4	6	8
Movement	NBTL	EBTL	SBTL	WBTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	None	C-Max	None	C-Max
Maximum Split (s)	66	36	66	36
Maximum Split (%)	64.7%	35.3%	64.7%	35.3%
Minimum Split (s)	25.3	35	25.3	35
Yellow Time (s)	4.3	3	4.3	3
All-Red Time (s)	1	3	1	3
Minimum Initial (s)	15	4	15	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	8	7	8	7
Flash Dont Walk (s)	12	22	12	22
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	86	50	86	50
End Time (s)	50	86	50	86
Yield/Force Off (s)	44.7	80	44.7	80
Yield/Force Off 170(s)	32.7	58	32.7	58
Local Start Time (s)	36	0	36	0
Local Yield (s)	96.7	30	96.7	30
Local Yield 170(s)	84.7	8	84.7	8

Intersection Summary		
Cycle Length		102
Control Type	Actuated-Coordinated	
Natural Cycle		150
Offset: 50 (49%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green		

Splits and Phases: 1: Tatum Blvd & Desert Cove Ave



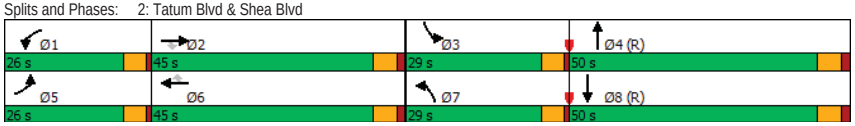
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	1	28	77	1	100	10	1731	41	113	1281	2
Future Volume (veh/h)	28	1	28	77	1	100	10	1731	41	113	1281	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	1	31	86	1	111	11	1923	46	126	1423	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	24	208	225	21	249	238	3039	943	148	3134	4
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	647	81	706	592	72	847	376	5106	1585	222	5266	7
Grp Volume(v), veh/h	63	0	0	198	0	0	11	1923	46	126	920	505
Grp Sat Flow(s),veh/h/ln	1434	0	0	1510	0	0	376	1702	1585	222	1702	1869
Q Serve(g_s), s	0.0	0.0	0.0	7.6	0.0	0.0	1.7	25.0	1.2	35.7	15.3	15.3
Cycle Q Clear(g_c), s	2.9	0.0	0.0	10.5	0.0	0.0	17.0	25.0	1.2	60.7	15.3	15.3
Prop In Lane	0.49		0.49	0.43		0.56	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	474	0	0	495	0	0	238	3039	943	148	2026	1112
V/C Ratio(X)	0.13	0.00	0.00	0.40	0.00	0.00	0.05	0.63	0.05	0.85	0.45	0.45
Avail Cap(c_a), veh/h	474	0	0	495	0	0	238	3039	943	148	2026	1112
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.33	0.33	0.33	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	0.0	0.0	29.0	0.0	0.0	16.2	13.4	8.6	40.0	11.5	11.5
Incr Delay (d2), s/veh	0.6	0.0	0.0	2.4	0.0	0.0	0.0	0.1	0.0	34.6	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	0.0	0.0	7.6	0.0	0.0	0.3	11.7	0.7	8.2	9.3	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	0.0	0.0	31.4	0.0	0.0	16.2	13.6	8.6	74.5	11.6	11.7
LnGrp LOS	C	A	A	C	A	A	B	B	A	E	B	B
Approach Vol, veh/h		63			198			1980			1551	
Approach Delay, s/veh		27.0			31.4			13.5			16.8	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.0		36.0		66.0		36.0				
Change Period (Y+Rc), s		5.3		6.0		5.3		6.0				
Max Green Setting (Gmax), s		60.7		30.0		60.7		30.0				
Max Q Clear Time (g_c+I1), s		27.0		4.9		62.7		12.5				
Green Ext Time (p_c), s		21.0		0.3		0.0		1.0				

Intersection Summary		
HCM 6th Ctrl Delay		16.0
HCM 6th LOS		B

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	SBL	NBT	EBL	WBT	NBL	SBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	C-Max	None	None	None	C-Max
Maximum Split (s)	26	45	29	50	26	45	29	50
Maximum Split (%)	17.3%	30.0%	19.3%	33.3%	17.3%	30.0%	19.3%	33.3%
Minimum Split (s)	10	36.9	20	40	10	36.9	20	40
Yellow Time (s)	4	4.3	4	4.3	4	4.3	4	4.3
All-Red Time (s)	1	1.6	1	1.7	1	1.6	1	1.7
Minimum Initial (s)	5	15	15	15	5	15	15	15
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		8		8		8		8
Flash Dont Walk (s)		23		26		23		26
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	105	131	26	55	105	131	26	55
End Time (s)	131	26	55	105	131	26	55	105
Yield/Force Off (s)	126	20.1	50	99	126	20.1	50	99
Yield/Force Off 170(s)	126	147.1	50	73	126	147.1	50	73
Local Start Time (s)	50	76	121	0	50	76	121	0
Local Yield (s)	71	115.1	145	44	71	115.1	145	44
Local Yield 170(s)	71	92.1	145	18	71	92.1	145	18

Intersection Summary		
Cycle Length		150
Control Type	Actuated-Coordinated	
Natural Cycle		150
Offset: 55 (37%), Referenced to phase 4:NBT and 8:SBT, Start of Green		

Splits and Phases: 2: Tatum Blvd & Shea Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	373	1228	243	198	1572	216	659	1133	270	289	688	287
Future Volume (veh/h)	373	1228	243	198	1572	216	659	1133	270	289	688	287
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	414	1364	270	220	1747	240	732	1259	300	321	764	319
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	1605	498	274	1331	413	553	1445	344	378	1065	441
Arrive On Green	0.13	0.31	0.31	0.08	0.26	0.26	0.16	0.35	0.35	0.11	0.30	0.30
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	4117	981	3456	3544	1466
Grp Volume(v), veh/h	414	1364	270	220	1747	240	732	1041	518	321	734	349
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1702	1694	1728	1702	1606
Q Serve(g_s), s	17.7	37.5	21.1	9.4	39.1	19.8	24.0	42.9	42.9	13.7	28.8	29.2
Cycle Q Clear(g_c), s	17.7	37.5	21.1	9.4	39.1	19.8	24.0	42.9	42.9	13.7	28.8	29.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.58	1.00		0.91
Lane Grp Cap(c), veh/h	459	1605	498	274	1331	413	553	1195	595	378	1023	483
V/C Ratio(X)	0.90	0.85	0.54	0.80	1.31	0.58	1.32	0.87	0.87	0.85	0.72	0.72
Avail Cap(c_a), veh/h	484	1605	498	484	1331	413	553	1195	595	553	1023	483
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	64.1	48.1	42.5	67.9	55.5	48.3	63.0	45.5	45.5	65.6	46.8	46.9
Incr Delay (d2), s/veh	19.3	4.5	1.2	5.5	146.1	2.0	158.0	8.8	16.1	7.3	3.8	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.0	23.3	13.3	7.8	51.4	12.8	34.5	26.8	28.1	10.3	18.3	18.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.4	52.7	43.7	73.4	201.6	50.4	221.0	54.3	61.6	72.9	50.6	55.0
LnGrp LOS	F	D	D	E	F	D	F	D	E	E	D	D
Approach Vol, veh/h		2048			2207			2291			1404	
Approach Delay, s/veh		57.7			172.3			109.2			56.8	
Approach LOS		E			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	53.1	21.4	58.7	24.9	45.0	29.0	51.1
Change Period (Y+Rc), s	5.0	* 5.9	5.0	* 6	5.0	* 5.9	5.0	* 6
Max Green Setting (Gmax), s	21.0	* 39	24.0	* 44	21.0	* 39	24.0	* 44
Max Q Clear Time (g_c+I1), s	11.4	39.5	15.7	44.9	19.7	41.1	26.0	31.2
Green Ext Time (p_c), s	0.5	0.0	0.7	0.0	0.2	0.0	0.0	6.0

Intersection Summary		
HCM 6th Ctrl Delay		104.2
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	0	126	14	0	84	55	2005	13	2	1003	149
Future Vol, veh/h	24	0	126	14	0	84	55	2005	13	2	1003	149
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	140	16	0	93	61	2228	14	2	1114	166

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2131	3482	557	2807	3641	1121	1280	0	0	2242	0	0
Stage 1	1118	1118	-	2357	2357	-	-	-	-	-	-	-
Stage 2	1013	2364	-	450	1284	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*124	*8	*682	*34	6	172	715	-	-	94	-	-
Stage 1	*700	*666	-	*21	68	-	-	-	-	-	-	-
Stage 2	*231	*67	-	*700	558	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	*50	*7	*682	*24	5	172	715	-	-	94	-	-
Mov Cap-2 Maneuver	*50	*7	-	*24	5	-	-	-	-	-	-	-
Stage 1	*641	*613	-	*19	62	-	-	-	-	-	-	-
Stage 2	*97	*61	-	*513	514	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	241.3	0.3	0.1
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	715	-	-	682	91	94	-	-
HCM Lane V/C Ratio	0.085	-	-	0.205	1.197	0.024	-	-
HCM Control Delay (s)	10.5	-	-	11.6	241.3	44.2	-	-
HCM Lane LOS	B	-	-	B	F	E	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.8	7.6	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	11

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1	2	21	0	65	0	1967	8	37	1130	5
Future Vol, veh/h	8	1	2	21	0	65	0	1967	8	37	1130	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	1	2	23	0	72	0	2186	9	41	1256	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2215	3536	631	2776	3535	1098	1262	0	0	2195	0	0
Stage 1	1341	1341	-	2191	2191	-	-	-	-	-	-	-
Stage 2	874	2195	-	585	1344	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	126	8	*647	*41	8	178	*814	-	-	99	-	-
Stage 1	642	618	-	*28	82	-	-	-	-	-	-	-
Stage 2	282	82	-	*664	615	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	51	5	*647	*~ 23	5	178	*814	-	-	99	-	-
Mov Cap-2 Maneuver	51	5	-	*~ 23	5	-	-	-	-	-	-	-
Stage 1	642	362	-	*28	82	-	-	-	-	-	-	-
Stage 2	168	82	-	*387	360	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	182.8	$ 363.6	0	2.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 814	-	-	31	67	99	-	-
HCM Lane V/C Ratio	-	-	-	0.394	1.426	0.415	-	-
HCM Control Delay (s)	0	-	-	182.8	$ 363.6	65.1	-	-
HCM Lane LOS	A	-	-	F	F	F	-	-
HCM 95th %tile Q(veh)	0	-	-	1.3	8	1.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	20	47	2011	1066	66
Future Vol, veh/h	17	20	47	2011	1066	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	22	52	2234	1184	73

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2182	592	1257	0	-	0
Stage 1	1184	-	-	-	-	-
Stage 2	998	-	-	-	-	-
Critical Hdwy	6.29	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*281	*639	*956	-	-	-
Stage 1	*579	-	-	-	-	-
Stage 2	*293	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	*266	*639	*956	-	-	-
Mov Cap-2 Maneuver	*218	-	-	-	-	-
Stage 1	*547	-	-	-	-	-
Stage 2	*293	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	* 956	-	339	-	-
HCM Lane V/C Ratio	0.055	-	0.121	-	-
HCM Control Delay (s)	9	-	17.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	27	19	2	1	71
Future Vol, veh/h	22	27	19	2	1	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	30	21	2	1	79

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	100	22
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	78	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	899	1055
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	945	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	886	1055
Mov Cap-2 Maneuver	-	-	-	-	886	-
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	945	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	1055
HCM Lane V/C Ratio	0.015	-	-	-	0.075
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	1686	26	12	1962	91	0	0	38	0	0	56
Future Vol, veh/h	41	1686	26	12	1962	91	0	0	38	0	0	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	85	-	150	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	1873	29	13	2180	101	0	0	42	0	0	62

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2281	0	0	1902	0	0	-	-	951	-	-	1090
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	*563	-	-	140	-	-	0	0	224	0	0	*447
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	1	-	-		-	-						1
Mov Cap-1 Maneuver	*563	-	-	140	-	-	-	-	224	-	-	*447
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	24.8	14.4
HCM LOS			C	B

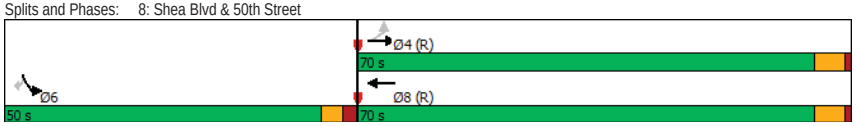
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	224	* 563	-	-	140	-	-	447
HCM Lane V/C Ratio	0.188	0.081	-	-	0.095	-	-	0.139
HCM Control Delay (s)	24.8	12	-	-	33.4	-	-	14.4
HCM Lane LOS	C	B	-	-	D	-	-	B
HCM 95th %tile Q(veh)	0.7	0.3	-	-	0.3	-	-	0.5

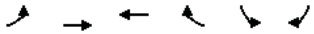
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Phase Number	4	6	8
Movement	EBTL	SBL	WBT
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	Max	C-Max
Maximum Split (s)	70	50	70
Maximum Split (%)	58.3%	41.7%	58.3%
Minimum Split (s)	25.3	29.2	25.3
Yellow Time (s)	4.3	3	4.3
All-Red Time (s)	1	2.2	1
Minimum Initial (s)	15	5	15
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	8	8	8
Flash Dont Walk (s)	12	16	12
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	3	73	3
End Time (s)	73	3	73
Yield/Force Off (s)	67.7	117.8	67.7
Yield/Force Off 170(s)	55.7	101.8	55.7
Local Start Time (s)	0	70	0
Local Yield (s)	64.7	114.8	64.7
Local Yield 170(s)	52.7	98.8	52.7

Intersection Summary		
Cycle Length		120
Control Type	Actuated-Coordinated	
Natural Cycle		100
Offset: 3 (3%), Referenced to phase 4:EBTL and 8:WBT, Start of Green		

Splits and Phases: 8: Shea Blvd & 50th Street





Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	59	1701	2040	50	145	73	
Future Volume (veh/h)	59	1701	2040	50	145	73	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	66	1890	2267	56	161	81	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	60	2753	1911	47	665	592	
Arrive On Green	0.54	0.54	0.54	0.54	0.37	0.37	
Sat Flow, veh/h	157	5274	3638	87	1781	1585	
Grp Volume(v), veh/h	66	1890	1132	1191	161	81	
Grp Sat Flow(s),veh/h/ln	157	1702	1777	1855	1781	1585	
Q Serve(g_s), s	0.0	32.5	64.7	64.7	7.5	4.0	
Cycle Q Clear(g_c), s	64.7	32.5	64.7	64.7	7.5	4.0	
Prop In Lane	1.00			0.05	1.00	1.00	
Lane Grp Cap(c), veh/h	60	2753	958	1000	665	592	
V/C Ratio(X)	1.10	0.69	1.18	1.19	0.24	0.14	
Avail Cap(c_a), veh/h	60	2753	958	1000	665	592	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	60.0	20.2	27.6	27.7	25.9	24.8	
Incr Delay (d2), s/veh	146.4	1.4	92.4	96.1	0.9	0.5	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	7.7	18.7	70.7	75.3	6.0	2.9	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	206.4	21.6	120.1	123.8	26.8	25.3	
LnGrp LOS	F	C	F	F	C	C	
Approach Vol, veh/h		1956	2323		242		
Approach Delay, s/veh		27.9	122.0		26.3		
Approach LOS		C	F		C		

Timer - Assigned Phs				4		6	8
Phs Duration (G+Y+Rc), s				70.0		50.0	70.0
Change Period (Y+Rc), s				5.3		5.2	5.3
Max Green Setting (Gmax), s				64.7		44.8	64.7
Max Q Clear Time (g_c+I1), s				66.7		9.5	66.7
Green Ext Time (p_c), s				0.0		0.7	0.0

Intersection Summary		
HCM 6th Ctrl Delay	76.1	
HCM 6th LOS	E	

APPENDIX G

SIGNAL WARRANT ANALYSIS

ADOT Traffic Engineering Guidelines and Policies section 611 includes methodology to consider signal warrants for future intersections using projected ADT. The methodology includes multiplying factors to the projected ADT to provide high hour, 4th high hour and 8th high hour volumes to compare with threshold volumes of the peak hour warrant, the 4-hour warrant and the 8-hour warrants. The factors are as follows:

High Hour	Hourly Adjustment Factor
1	0.0771
4	0.0656
8	0.0572

Right-turn factor applied

	NB	SB	EB	WB
2024 AM Total	0%	0%	0%	0%
2024 PM Total	0%	0%	0%	0%

Determine approach PM peak hour volumes	NB	SB	EB	WB
2024 AM Total	927	1660	4	33
2024 PM Total	1975	1172	11	86

Approximate approach ADT volumes by dividing by the high hour adjustment factor (0.0771)

	NB	SB	EB	WB	NB+SB	EB+WB
2024 AM Total	12,023	21,530	52	428	**33,554**	**480**
2024 PM Total	25,616	15,201	143	1,115	**40,817**	**1,258**

Apply adjustment factors	8th high hour		4th high hour		High hour	
	Major, both approaches	Minor, larger approach	Major, both approaches	Minor, larger approach	Major, both approaches	Minor, larger approach
2024 AM Total	**1,919**	**24**	**2,201**	**28**	**2,587**	**33**
2024 PM Total	**2,335**	**64**	**2,678**	**73**	**3,147**	**86**

Thresholds are dependent on the number of lanes on each street approaching the intersection (prior to auxiliary lanes) and the speed limit on the major roadway.

Number of lanes moving traffic on major street?	3
Number of lanes moving traffic on major approach of minor street?	2
Posted or 85 percentile speed over 40 mph?	yes

Now compare to applicable signal warrant criteria of MUTCD

Warrant 1 (Eight-Hour Vehicular Volume)

Thresholds to pass				
Condition A	Major	420	Minor	140
Condition B	Major	630	Minor	70
Combo (A)	Major	336	Minor	112
Combo (B)	Major	504	Minor	56

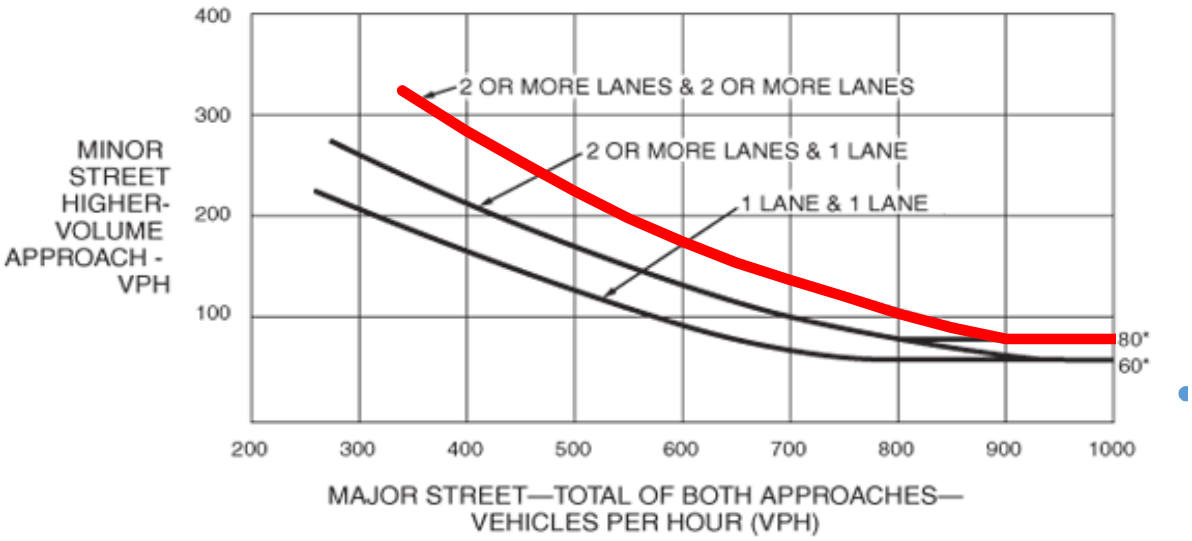
Volumes to compare	Major, both approaches	Minor, larger approach
2024 AM Total	**1,919**	**24**
2024 PM Total	**2,335**	**64**

Compare criteria for each scenario	Condition A	Condition B	Combination	**Signal Warrant met**
2024 AM Total	No	No	No	**No**
2024 PM Total	No	No	No	**No**

Signal Warrant 2 (Four-Hour Vehicular Volume)

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend	Major, both approaches	Minor, larger approach	Approximate Threshold for Minor
2024 AM Total	2,201	28	80
2024 PM Total	2,678	73	80
not used			
not used			

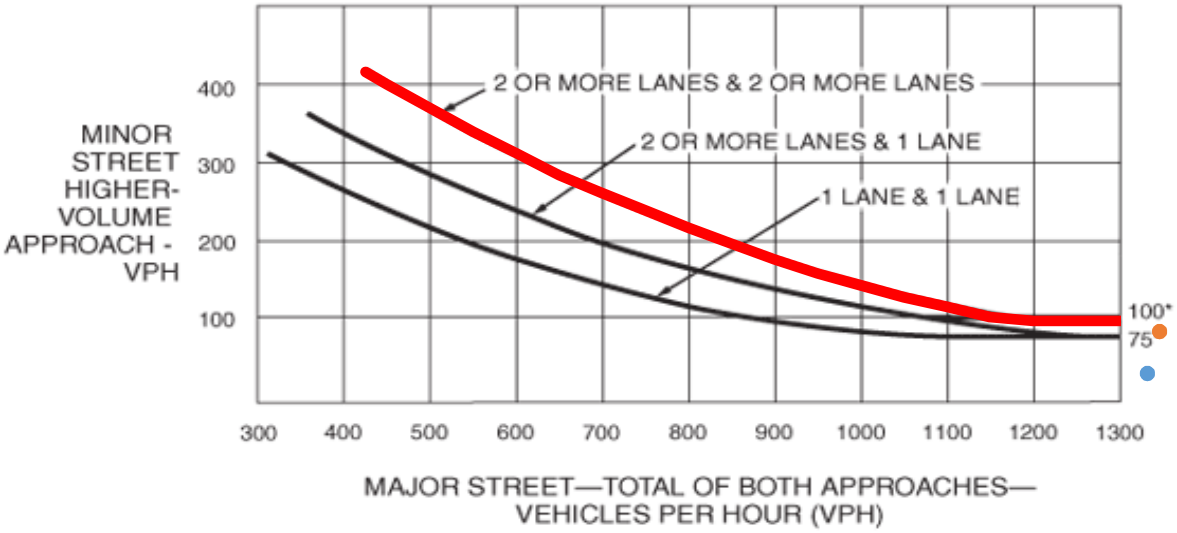
Signal Warrant 2 is met?

2024 AM Total	**No**
2024 PM Total	**No**

Signal Warrant 3 (Peak Hour)

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend	Major, both approaches	Minor, larger approach	Approximate Threshold for Minor
2024 AM Total	2,587	33	100
2024 PM Total	3,147	86	100
not used			
not used			

Signal Warrant 3 is met?

2024 AM Total	**No**
2024 PM Total	**No**

APPENDIX H

QUEUE LENGTH ANALYSIS

Signalized Intersection
2024

Average Vehicle Length (ft): 25 Cycles: 1.5
Intersection Cycle Length (sec): varies
Equation Used: storage length = 1.5 x (vehicles/hour)/(cycles/hour) x average vehicle length

Intersection	Approach	AM Peak (veh/hr)	Midday Peak	PM Peak (veh/hr)	Max vehs per 1.5 cycles	Max trucks per 1.5 cycles	Storage Length
Tatum Blvd& Desert Cove Ave (102 Second Cycle)	NB Left	29	0	10	2	0	50'
	SB Left	85	0	111	5	0	125'
	EB Left	9	0	27	2	0	50'
	WB Left	20	0	76	4	0	100'
	NB Right	36	0	40	2	0	50'
	SB Right	10	0	2	1	0	25'
	EB Right	5	0	27	2	0	50'
	WB Right	49	0	98	5	0	125'
Tatum Blvd & Shea Blvd (140 Second Cycle)	NB Left	298	0	705	42	0	525'
	SB Left	231	0	287	17	0	225'
	EB Left	229	0	365	22	0	275'
	WB Left	324	0	194	19	0	250'
	NB Right	221	0	265	16	0	400'
	SB Right	115	0	281	17	0	425'
	EB Right	491	0	242	29	0	725'
	WB Right	182	0	211	13	0	325'
50th St & Shea Blvd (120 Second Cycle)	NB Left	0	0	0	0	0	0'
	SB Left	75	0	141	8	0	200'
	EB Left	38	0	58	3	0	75'
	WB Left	0	0	0	0	0	0'
	NB Right	0	0	0	0	0	0'
	SB Right	43	0	72	4	0	100'
	EB Right	0	0	0	0	0	0'
	WB Right	53	0	49	3	0	75'

Calculations for dual turn lanes are underlined

Unsignalized Intersection
2024

Average Vehicle Length (ft): 25

Equation Used: storage length = 2 x (vehicles/hour)/(60 minutes/hour) x average vehicle length

Intersection	Approach	AM Peak (veh/hr)	Midday Peak	PM Peak (veh/hr)	Veh per 2 minutes	Trucks per 2 minutes	Storage Length
Tatum Blvd & Fry's Dwy/Medical Center Dwy	NB Left	43	0	54	2	0	50'
	SB Left	1	0	2	1	0	25'
	EB Left	26	0	24	1	0	25'
	WB Left	9	0	37	2	0	50'
	NB Right	45	0	22	2	0	50'
	SB Right	91	0	146	5	0	125'
	EB Right	69	0	124	5	0	125'
	WB Right	24	0	123	5	0	125'
Tatum Blvd & Beryl Ave/Tatum Corporate Center Dwy	NB Left	6	0	0	1	0	25'
	SB Left	51	0	41	2	0	50'
	EB Left	2	0	8	1	0	25'
	WB Left	7	0	43	2	0	50'
	NB Right	34	0	17	2	0	50'
	SB Right	24	0	5	1	0	25'
	EB Right	2	0	2	1	0	25'
	WB Right	36	0	101	4	0	100'
Tatum Blvd & Gold Dust Ave	NB Left	16	0	46	2	0	50'
	SB Left	0	0	0	0	0	0'
	EB Left	23	0	19	1	0	25'
	WB Left	0	0	0	0	0	0'
	NB Right	0	0	0	0	0	0'
	SB Right	20	0	70	3	0	75'
	EB Right	60	0	20	2	0	50'
	WB Right	0	0	0	0	0	0'
Medical Center Dwy & Beryl Ave	NB Left	0	0	0	0	0	0'
	SB Left	1	0	1	1	0	25'
	EB Left	75	0	38	3	0	75'
	WB Left	0	0	0	0	0	0'
	NB Right	0	0	0	0	0	0'
	SB Right	20	0	130	5	0	125'
	EB Right	0	0	0	0	0	0'
	WB Right	1	0	2	1	0	25'
Albertsons Dwy/Medical Center Dwy & Shea Blvd	NB Left	0	0	0	0	0	0'
	SB Left	0	0	0	0	0	0'
	EB Left	51	0	36	2	0	50'
	WB Left	39	0	19	2	0	50'
	NB Right	17	0	51	2	0	50'
	SB Right	34	0	55	2	0	50'
	EB Right	99	0	48	4	0	100'
	WB Right	30	0	81	3	0	75'

MOUNTAIN VIEW MEDICAL CENTER REDEVELOPMENT
PARKING ANALYSIS

SEC corner of Tatum Boulevard and Shea Boulevard, Town of Paradise Valley

Prepared for:

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By:

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(480) 659-4250

September 2018
CivTech Project # 18-0850

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The Mountain View Medical Center (MVMC) redevelopment is located at 10555 North Tatum Boulevard. The existing MVMC site encompasses approximately 10.16 net acres and consists of approximately 59,969 gross square feet of medical office land uses. The proposed redevelopment consists of approximately 91,318 net square feet of medical office land use.

CivTech has prepared a parking study that addresses the number of spaces for the proposed medical offices considering parking ratios calculated for the existing center and the future characteristics of the development. The parking analysis will be completed to meet the requirements of the Town of Paradise Valley.

EXISTING CONDITIONS

The MVMC consists of 6 existing buildings located on the southeast corner of Tatum Boulevard and Shea Boulevard. It currently consists of 59,969 gross square feet of medical office. Approximately 9,447 SF were vacant at the time of this study. There are a total of 331 existing parking spaces on site including 305 regular spaces and 26 ADA spaces. The existing site plan and unit information can be found in **Appendix A**.

Existing parking counts were conducted every 30 minutes on June 7th (Thursday) from 6:00AM to 10:00 PM. The existing conditions parking counts and resulting parking rate calculations are included in **Appendix B**. The results for the weekday count are summarized in **Table 1**.

Table 1 – Existing Parking Summary

Day	Time at Peak Use	Regular	ADA	Total
Existing Total Spaces	-	**305**	**26**	**331**
June 7th (Thursday)	10:30AM	**194**	**7**	**201**
			Max Spaces Occupied	**201**
			Excess (Deficit) No. of Spaces	**130**
			Excess (Deficit) Pct. of Spaces	**39%**

The results of the existing parking counts concluded that the parking peak occupancy on June 7th was 201 parking spaces at 10:30AM with 194 regular spaces and 7 ADA spaces occupied. There are 130 excess parking spaces (39%) on the weekday of the total 331 existing parking spaces. With the current vacancies, the existing medical office has 50,522 SF in use with a maximum of 201 spaces occupied resulting in a parking rate of approximately 0.8 parking spaces for every 200 SF.

The parking spaces and ratio were determined for the summer months. Information provided by the existing owner/tenants suggested that summer parking utilization was 90% of the winter utilization. To determine the maximum parking for the winter months an adjustment was applied to the summer maximum parking space utilization. The calculated winter maximum parking space utilization is approximately 222 parking spaces resulting in a parking rate of approximately 0.88 parking spaces per 200 square feet.

PROPOSED DEVELOPMENT

The proposed redevelopment at buildout consists of approximately 91,318 net square feet of medical center and a proposed 410 parking spaces, including 12 accessible parking spaces. The proposed parking rate is 0.88 parking spaces per 200 square feet or 4.4 parking spaces for every 1000 SF.

The Special Use Permit (SUP) Guidelines for Paradise Valley provides the Town's Code for on-site parking requirements for medical office. The SUP Guidelines suggest that 1 parking space for every 200 SF of interior floor area should be provided. The parking information shown in the SUP Guidelines for the proposed medical office are summarized in **Table 3**:

Table 2 – Summary of Parking

Land Use	Size	Requirements Per SUP Guidelines	Required Parking Spaces
Medical Office	91,318 SF	1 Parking Space Per 200 SF	456

The Code required parking results using the SUP Guidelines for the MVMC redevelopment of 91,318 SF of medical center will require 456 parking spaces.

The existing parking ratio calculations from actual field observations results in fewer parking spaces per SF of the building than the SUP Guidelines require. The existing facility, when considering vacancies and an increase in usage by 10 percent in the winter months, requires 0.88 parking spaces for every 200 SF. The comparison between the actual parking rate calculated for the facility and the SUP guideline parking rate are provided in **Table 3** for the proposed 91,318 square foot medical facility.

Table 3 – Summary of Parking

Land Use	Size	Requirements	Required Parking Spaces
Medical Office	91,318 SF	SUP Guidelines: 1 Parking Space Per 200 SF	456
		Existing Calculations: 0.8 Parking Spaces Per 200 SF	365
		Existing Adjusted Calculations: 4.4 Parking Spaces Per 1000 SF	402

The medical office requires approximately 456 parking spaces to meet requirements shown in the SUP Guidelines. A total of 402 parking spaces are needed at the MVMC redevelopment to provide an adequate supply to support the proposed use. The development proposes to provide 410 parking spaces which exceeds the expected demand.

The Town of Paradise Valley parking rates include different requirements for specific types of medical offices such as pharmacy (1 space per 300 SF), outpatient surgical facilities (1 space per 2 employees plus 1 space per surgical room), medical laboratories (1 space per 2 employees) and physical therapy facilities (1 space per 1.5 employees) which can result in lower parking needs. The City of Scottsdale, in comparison, requires 1 space per 250 SF of medical office which the proposed redevelopment meets and exceeds. Furthermore, the growth in prominence of passenger transport services may have some effect in parking needs, though this analysis does not evaluate this mode individually.

The parking supply proposed by the MVMC redevelopment will continue to facilitate acceptable operations at the facility.

PHASING

The construction will occur in three (3) phases with Phase 1 including reconstruction of Building F (east corner of the site), Phase 2 including the reconstruction of Building A (south corner of the site) and Phase 3 reconstruction of the remaining buildings. The Town Engineer requested that parking needs be evaluated by Phase to ensure that sufficient parking is provided phases

of construction. The site plan provided in the **Attachments** indicates that Phase 1 consists of 18,697 net square feet and will provide 94 parking spaces, Phase 2 consists of 15,821 net square feet and will provide 79 parking spaces and Phase 3 consists of 56,800 net square feet and will provide 239 parking spaces. These square footages, provided parking and required parking are summarized in **Table 4**.

Table 4 – Summary of Parking

Phase	Size[1]	Parking Spaces by Ratio		Parking Spaces Provided
		1 per 200 SF	4.4 per 1,000 SF	
Existing	59,969 SF	300	264	331
1	69,304 SF	347	305	334
2	76,309 SF	382	336	357
3	91,318 SF	457	402	410

The project will provide over 4.4 spaces per 1,000 net square feet between each phase in addition to completion of the project.

CONCLUSIONS

The MVMC redevelopment parking evaluation findings are is summarized below:

- The existing parking conditions concluded that parking peak occupancy on June 7th was 201 parking spaces with 9,447 SF of office building vacancies.
    - There are 130 excess parking spaces (39%) on the weekday of the total 331 existing parking spaces.
    - Including the current vacancies, the existing medical office has 50,522 SF in use with a maximum of 201 spaces occupied resulting in approximately 0.8 parking spaces for every 200 SF.
    - Information was obtained that 90% of the winter parking levels are in use in the summer. With the adjustment for the winter months, approximately 222 parking spaces required resulting in a rate of 0.88 parking spaces per 200 square feet or 4.4 parking spaces for every 1000 SF.
- The proposed redevelopment at buildout consists of approximately 91,318 net square feet of medical center. A total of 402 parking spaces are needed at the MVMC redevelopment to provide an adequate supply to support the proposed use. The development proposes to provide 410 parking spaces which exceeds the expected demand.
    - The medical office requires approximately 456 parking spaces per the SUP Guidelines.
    - Using the actual rate calculated for the existing medical facility and applying that rate to the proposed redevelopment, a total of 402 parking space would be required.
    - The Town of Paradise Valley parking rates include different requirements for specific types of medical offices such as pharmacy (1 space per 300 SF), outpatient surgical facilities (1 space per 2 employees plus 1 space per surgical room), medical laboratories (1 space per 2 employees) and physical therapy facilities (1 space per 1.5 employees) which can result in lower parking needs.
    - The City of Scottsdale, in comparison, requires 1 space per 250 SF of medical office which the proposed redevelopment meets and exceeds
- The parking supply proposed by the MVMC redevelopment will continue to facilitate acceptable operations at the facility.
- The project will provide over 4.4 spaces per 1,000 net square feet between each phase in addition to completion of the project.

APPENDIX

APPENDIX A
SITE PLAN AND UNIT INFORMATION

APPENDIX B
EXISTING COUNTS AND CALCULATIONS

PVMC PARKING COUNT DATA COLLECTION
THURSDAY JUNE 7, 2018

Location		A		B		C		D		E		F	
BEGIN	END	Regular	Handicap	Regular	Handicap	Regular	Handicap	Regular	Handicap	Regular	Handicap	Regular	Handicap
Spaces from aerial		19	3	25	1	120	9	40	6	69	4	25	3
Verified Spaces		18	3	25	1	120	8	40	6	69	4	25	3
7:00	7:30	3	0	8	0	13	0	8	1	5	0	0	0
7:30	8:00	6	0	11	0	16	0	11	1	9	0	1	0
8:00	8:30	4	0	15	0	21	0	19	1	12	0	1	0
8:30	9:00	16	1	20	0	41	2	26	2	35	1	6	0
9:00	9:30	17	2	21	0	LHL	4	33	1	LH	3	10	0
9:30	10:00	18	2	20	0	68	4	32	2	38	3	11	0
10:00	10:30	17	2	22	0	60	3	34	1	40	2	11	0
10:30	11:00	17	1	22	0	65	3	33	1	LH	2	13	0
11:00	11:30	16	1	21	0	65	4	33	1	45	2	12	0
11:30	12:00	18	0	19	1	61	5	25	2	42	1	12	0
12:00	12:30	12	0	16	1	63	4	17	4	37	1	15	0
12:30	1:00	11	2	12	1	51	4	17	4	36	0	15	0
1:00	1:30	13	2	9	0	LHL	3	16	3	27	0	20	1
1:30	2:00	12	1	9	0	LH	3	18	3	26	0	22	1
2:00	2:30	16	0	16	0	50	2	24	4	29	1	20	0
2:00	3:00	16	0	20	0	53	1	31	2	31	1	20	0
3:00	3:30	17	0	22	0	51	3	32	2	35	0	10	0
3:30	4:00	16	1	23	0	55	2	32	1	34	0	7	0
4:00	4:30	16	0	20	0	40	1	28	0	25	0	6	0
4:30	5:00	12	0	17	0	32	0	20	0	14	1	6	0
5:00	5:30	9	0	12	0	14	0	18	0	11	0	6	0
5:30	6:00	7	0	10	0	12	0	12	0	10	0	6	0
6:00	6:30	5	0	6	0	9	0	4	0	8	0	3	0

DoubleTree Resort by Hilton Hotel
5401 N Scottsdale Rd
Scottsdale, AZ 85250

Time	A		B		C		D		E		F		Total Regular	Total ADA	Total
	Regular	ADA	Regular	ADA	Regular	ADA	Regular	ADA	Regular	ADA	Regular	ADA			
Existing Total Spaces	**19**	**3**	**25**	**1**	**120**	**9**	**40**	**6**	**69**	**4**	**25**	**3**	**298**	**26**	**324**
7:00 AM	3	0	8	0	13	0	8	1	5	0	0	0	37	1	38
7:30 AM	6	0	11	0	16	0	11	1	9	0	1	0	54	1	55
8:00 AM	9	0	15	0	21	0	19	1	12	0	1	0	77	1	78
8:30 AM	16	1	20	0	41	2	26	2	35	1	6	0	144	6	150
9:00 AM	17	2	21	0	44	4	30	1	41	3	10	0	163	10	173
9:30 AM	18	2	20	0	68	4	32	2	39	3	11	0	188	11	199
10:00 AM	17	2	22	0	60	3	34	1	40	2	11	0	184	8	192
10:30 AM	17	1	22	0	65	3	33	1	44	2	13	0	194	7	201
11:00 AM	16	1	21	0	65	4	33	1	45	2	12	0	192	8	200
11:30 AM	18	0	19	1	61	5	25	2	42	1	12	0	177	9	186
12:00 PM	12	0	16	1	63	4	17	4	37	1	15	0	160	10	170
12:30 PM	11	2	12	1	51	4	17	4	36	0	18	0	145	11	156
1:00 PM	13	2	9	0	44	3	16	3	27	0	20	1	129	9	138
1:30 PM	12	1	9	0	44	3	18	3	28	0	22	1	133	8	141
2:00 PM	16	0	16	0	50	2	29	4	29	1	20	0	160	7	167
2:30 PM	18	0	20	0	53	1	31	2	31	1	20	0	173	4	177
3:00 PM	17	0	22	0	51	3	32	2	35	0	10	0	167	5	172
3:30 PM	16	1	23	0	55	2	32	1	34	0	7	0	167	4	171
4:00 PM	16	0	20	0	40	1	28	0	25	0	6	0	135	1	136
4:30 PM	12	0	17	0	32	0	20	0	14	1	6	0	101	1	102
5:00 PM	9	0	12	0	19	0	18	0	11	0	6	0	75	0	75
5:30 PM	7	0	10	0	12	0	12	0	10	0	6	0	57	0	57
6:00 PM	5	0	6	0	9	0	4	0	8	0	3	0	35	0	35

Max Spaces Occupied	**201**
Existing Spaces	**324**
Excess (Deficit) No. of Spaces	**123**
Excess (Deficit) Pct. of Spaces	**38%**

CivTech