Exterior Building Color & Material Samples
Color Drawdowns
Archaeological Resources
Airport Vicinity Development Checklist
Parking Study
Trip Generation Comparison
Parking Master Plan

Xtra copy of red line comments given to applicant

City of Scottsdale
Stormwater Management Division

Memorandum

To: **Hubbard Engineering**
Shannon Wolfe
480-949-6800

From Nerijus Baronas, PE, CFM
City of Scottsdale Stormwater Engineer
480-312-7072, nbaronas@scottsdaleaz.gov

Re: Drainage review comments for the Cottonwoods Mixed Use Project.
Case number: 21-ZN-2013
Review date: 1-7-14

CASE RESUBMITTAL INFORMATION: Case not approved. Please address the following review comments:

1. Compute and present pre and post development runoff coefficient "C". If post development "C" value show increase provide 100yr 2hr retention volume to the ΔC. If additional storage volume is needed provide drywell percolation calculations.

2. Re-submit existing and proposed condition exhibits as 24"x36" prints.

3. Depict and callout drainage easements for detention basins.

Please briefly respond to the above comments and include the response in the re-submittal. Address mark-ups in Preliminary Drainage Report.

Resubmittal Checklist

Please submit the following items with your next review:

- 2 Drainage Reports (with 24"x36" exhibits)
- 2 CD's with pdf files of drainage reports and excel spreadsheets.

COTTONWOODS MIXED USE PROJECT

LOCATED AT ON THE SOUTHWEST CORNER OF ROSE LANE AND SCOTTSDALE ROAD
SCOTTSDALE, AZ

PRELIMINARY DRAINAGE REPORT

NOVEMBER 5, 2013

PREPARED FOR:

NELSEN PARTNERS, LLC.
15210 N.SCOTTSDALE RD, SUITE 300
SCOTTSDALE, AZ 85254
(480) 949-6800

PREPARED BY:

HUBBARD ENGINEERING
1840 S. STAPLEY DRIVE, SUITE 137
MESA, ARIZONA 85204
ENGINEER: SHANNON WOLFE
SWOLFE@HUBBARDENGINEERING.COM
(480) 892-3313
HUBBARD PROJ. NO.: 13178

Stormwater Review By:
Nerijus Baronas
Phone: 480-312-7072
Fax: 480-312-9187
e-mail: nbaronas@ScottsdaleAZ.gov
Review Cycle # 1 Date 1-7-14

Registered Professional Engineer (Civil)
CERTIFICATION
43320
CHRISTINA SHANNON WOLFE
Date signed ....11-05-13..
ARIZONA, U.S.A.

HUBBARD ENGINEERING

Add expiration date

21-ZN-2013
12/16/2013

TABLE OF CONTENTS

FIGURES

APPENDICES

EXHIBITS

Add expiration date

1.0 INTRODUCTION

This report presents the findings of a Preliminary drainage study of a proposed Cottonwoods Mixed Use project ("site") conducted by Hubbard Engineering ("HE") at the request of Nelsen Partners, LLC ("Client'). This report addresses the off-site flows, existing and proposed on-site conditions as well as storm water runoff detention requirements.

1.1 Site Description

The site sits on Parcel 174-65-012G, Section 10 of Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, in the City of Scottsdale, Arizona. The location of the site is shown on the *Site Vicinity Map*, **FIGURE 1** on the next page. The project is bounded on the north and the west by Rose Lane, on the south by the Alamos development and the east by Scottsdale Road.

The site is irregular in shape and encompasses approximately 1.60 acres. General land use in the vicinity of the site is commercial and residential. The site is currently a one story building serving as the lobby to the Cottonwoods Resort and a restaurant. See **EXHIBIT 1** for the existing conditions map.

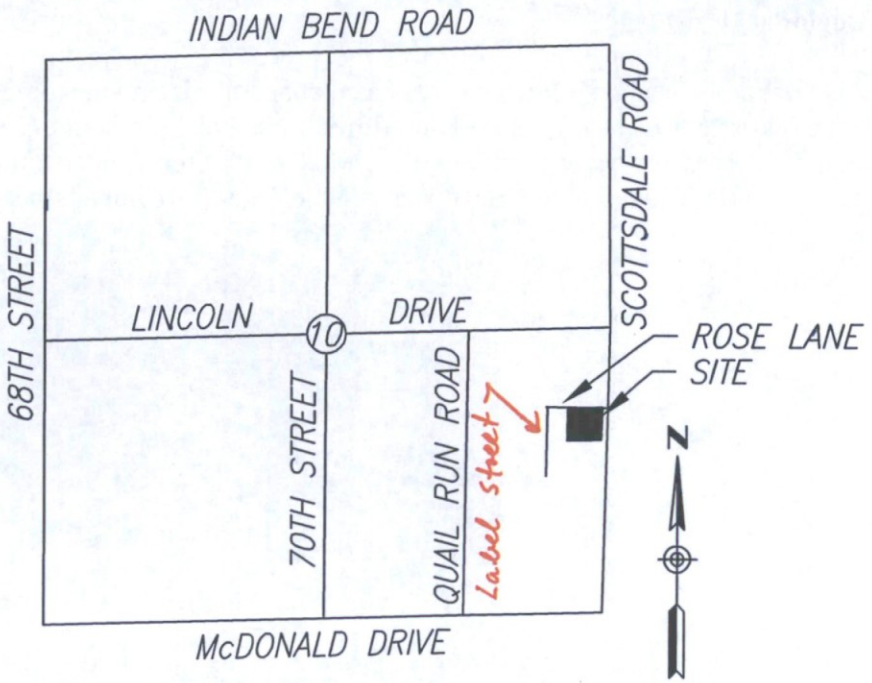
1.2 Proposed Development

Proposed development of the project consists of a four story building with a parking garage below ground, (see **EXHIBIT 2**). Proposed access to the site is provided from Rose Lane.

1.3 FEMA Flood Map

The site is located within Flood Zone D FEMA flood map 04013C1770L dated October 16, 2013. Zone 'D' is defined as unstudied areas where flood hazards are undetermined, but flooding is possible. Flood Insurance is not mandatory, but may be available in some participating communities.

HUBBARD ENGINEERING
www.hubbardengineering.com
1840 S. Stapley Dr.
Suite 137
Mesa, AZ 85204
Ph: 480.892.3313



VICINITY MAP
THE COTTONWOODS MIXED USE PROJECT
FIGURE "1"
Scottsdale, Maricopa County, Arizona

Project No. 13178	Date 09/13/13	Sht: 1 of 1
Project Manager SHANNON WOLFE	Project Eng.	

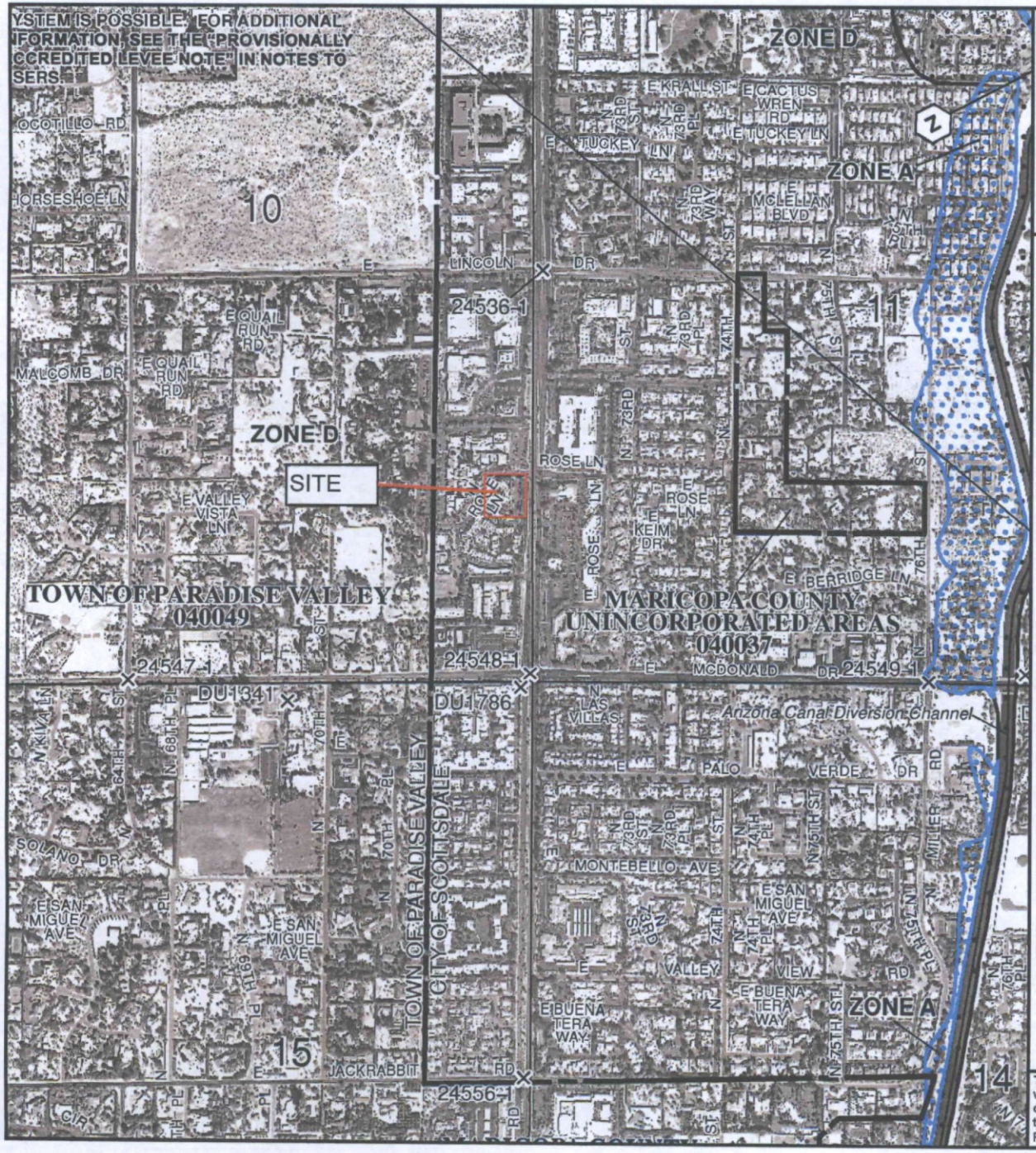
2.0 PHYSICAL SETTING

2.1 Topography

The Site is located approximately 1 mile west of the Indian Bend Wash and is characterized by very flat terrain that slopes towards the southeast. The site is fully developed. A review of topographic survey for this site indicates that the project ranges in elevation from approximately 1304.5 ft. at the northwest corner to approximately 1302 ft. at the southeast boundary. This is a total elevation of approximately 2.5 feet across the site in a northwest to southeast direction.

2.2 Regional Hydrology

The area is well developed with property that has planned for detention storage and storm drains in the major arterial streets. Rose Lane flows in the gutter and outlets at Scottsdale Road. Scottsdale Road has a storm drain system. Most of the storm water runoff from this area ultimately outfalls to the Indian Bend Wash. No offsite flows impact the site.



OTHER AREAS

ZONE X Areas determined to be outside the 0.2%

ZONE D Areas in which flood hazards are undeterm

COASTAL BARRIER RESOURCES SY

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1770L

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA

AND INCORPORATED AREAS

PANEL 1770 OF 4425

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1770	L
PARADISE VALLEY, TOWN OF	040049	1770	L
SCOTTSDALE, CITY OF	045012	1770	L

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
04013C1770L

MAP REVISED
OCTOBER 16, 2013

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

3.0 DRAINAGE CHARACTERISTICS

3.1 Existing

The existing site design directs storm water via overland flow including valley gutter and curb openings to a surface detention basin adjacent the the east property line and Scottsdale Road. There are several existing drywells in the detention area. The property does not have any underground storm drain or underground detention tanks. On-site storm water runoff flows through the site from west to east (detention basin) with the ultimate outfall at the southeast corner of the site. There are no offsite flows entering the site. See **EXHIBIT 1** for the existing site conditions.

3.2 Proposed

The low finish floor elevation will be set a minimum of 14-inches above the ultimate outfall of the site.

The 100-year, 6-hour storm runoff will be directed away from the building via underground roof drains and area inlets, or with overland flow to surface basins on the north and the southeast of the proposed building.

The inlets in the parking area will be Type F MAG 535 catch basins. One drywell is required per the preliminary drain time calculations in **Appendix B**. The hydraulic grade lines will be at least 1 foot below the grate elevations of the area inlets. There will be a trench drain at the bottom of the ramp into the underground parking garage.

Peak Flows were calculated using Rational Method and the Time of Concentration calculated using methodology from the Maricopa County Hydrology Manual. The minimum Time of Concentration used was 5 minutes which is standard for small sites. Per the City Design Standards, peak flows for the 2 year, 10 year and 100 year were calculated. See preliminary rational peak flow calculations in **Appendix A and Table 1,** and Drainage Area designations (DA-1, DA-2...) in **EXHIBIT 2**.

Table 1: Rational/Peak Flows Summary

Sub-Basin & Concentration Point ID	C Runoff Coefficient Frequency			A Area	Q Peak Discharge Frequency		
	2-year	10-year	100-year	[acres]	2-year	10-year	100-year [cfs]
DA-1	0.80	0.80	0.86	0.56	1.3	2.1	3.7
DA-2	0.80	0.80	0.86	0.87	2.1	3.3	5.8
DA-3	0.80	0.80	0.86	0.09	0.2	0.4	0.6
DA-4	0.95	0.95	0.95	0.09	0.2	0.4	0.7
DA-5	0.83	0.83	0.88	0.48	0.9	1.6	3.1

Per discussions with the client and the City, additional retention is not required because this is an existing site, and Hubbard was directed to use the existing retention basin for design. Therefore, Hubbard has shown that the basin has capacity for above the first flush. Detention for the first flush will be provided by the existing basin adjacent to Scottsdale Road. The existing surface detention basin has several existing drywells which will be used for drying up the basin.

The site will drain via overland flow to the basin at the southeast corner of the site which is the ultimate outfall at an elevation of 1303.0.

The required detention to accommodate the first flush, which is the first 0.5 inches of runoff is shown in the Table below. The C value, C=0.86 (100 yr Commercial) from Figure 4.1-4 per the City of Scottsdale Design Standards, see results in **Appendix B**. See **Table 2** for a summary of the Detention Calculations.

Full detention is 100yr 2hr this is First Flush

Table 2: ~~Detention~~ Calculations Summary

Identifiers	CALCULATE DETENTION VOLUME REQUIRED		Volume Required	
Contributory Area ID	Area [acres]	C	[acre-ft]	[ft^3]
DA-1	0.56	0.86	0.02	870.79
DA-2	0.87	0.86	0.03	1,357.5
DA-3	0.09	0.86	0.00	140.54
DA-4	0.09	0.95	0.00	151.29
DA-5	0.48	0.88	0.02	770.88
Total Area:	**2.09** ✓	**TOTAL VOLUME REQUIRED:**	**0.08**	**3,291**

DETENTION BASINS					
Detention Basin	HW Area ft2	Bottom Area ft2	H ft	Volume Provided ft3	Drainage Areas contributing to Basins
RB-1	3,500.00	1,400.00	2	7,113.59	ALL DRAINAGE AREAS
			Total ->	7,113.59	

It is unclear how this volume was estimated. Please attach excel spreadsheet to the CD with next submittal.

see hydraulic calculation sheet.

4.0 SUMMARY AND CONCLUSIONS

1. The site is in a residential and commercial area of Scottsdale and is fully developed with an existing one story building and parking lot. There is an existing detention basin located adjacent to Scottsdale Road with existing drywells. The site does not have offsite flows entering it.
2. The proposed development will be a four story building with underground parking. The system of roof drains, area inlets, and catch basins will direct storm runoff to the existing first flush detention basin.
3. Per the client, discussions with the City, the client was told no additional retention was necessary as part of this development. The site was checked for capacity of first flush detention and the existing basin has capacity.
4. Existing drywells in the existing detention basin will be used to dry the detention area within 36 hours.
5. The runoff from Rose Lane drains to Scottsdale Road and Scottsdale Road discharges to the Indian Bend Wash via street gutter and storm drains. First Flush Detention was calculated for the site and the existing adjacent half streets.
6. Low Finish Floor elevations are a minimum of 14-inches above the ultimate outfall of the site, which is at the southeast corner of the site.
7. FEMA classifies the site area as Zone D, therefore Flood Insurance is not mandatory, but may be available in participating communities. Zone D is defined as areas where flood hazards are undetermined, but flooding is possible.

Calculate and present pre and post development runoff coefficient "C". If C_{post} is larger than C_{pre} provide 100yr 2hr storage for the ΔC.

5.0 REFERENCES CITED AND REVIEWED

1. *Design Standards and Policies Manual*, City of Scottsdale, January 2010.
2. *Drainage Design Manual For Maricopa County, Arizona, Volume I, Hydrology*, Flood Control District Of Maricopa County, February 2011.
3. *Drainage Design Manual For Maricopa County, Arizona, Volume II, Hydraulics*, Flood Control District Of Maricopa County, February 2011.
4. *Flood Insurance Rate Map (F.I.R.M.) Maricopa County, Arizona and Incorporated Areas,* Panel Number 04013C1770L, Federal Emergency Management Agency, October 16, 2013.

APPENDIX A

Rational/Peak Flow Calculations

HYDROLOGIC CALCULATION SUMMARY SHEET
RATIONAL METHOD
Hubbard Engineering
Project No. 13178

Attach complete calculations in next submittal.

Project Name: Cottonwoods Mixed Use
Project No.: 13178

Prepared by: CSW
Revised by:

Date: 09/12/12
Date:

Missing

Complete calculations for each concentration point are presented in the attached hydrologic calculation sheets.

Add column with T_c values.

Sub-Basin & Concentration Point ID	C Runoff Coefficient Frequency			I Intensity Frequency			A Area	Q Peak Discharge Frequency		
	2-year	10-year	100-year	2-year	10-year	100-year	[acres]	2-year	10-year	100-year
				[in/hr]				[cfs]		
DA-1	0.80	0.80	0.86	3.00	4.80	7.80	0.56	1.3	2.1	3.7
DA-2	0.80	0.80	0.86	3.00	4.80	7.80	0.87	2.1	3.3	5.8
DA-3	0.80	0.80	0.86	3.00	4.80	7.80	0.09	0.2	0.4	0.6
DA-4	0.95	0.95	0.95	2.75	4.80	7.80	0.09	0.2	0.4	0.7
DA-5	0.83	0.83	0.88	2.25	4.00	7.20	0.48	0.9	1.6	3.1

APPENDIX B

Retention Calculations

HYDRAULIC CALCULATION SHEET

First Flush Volume

~~Detention~~ Calculations
Hubbard Engineering
Project No. 13178

Project Name: Cottonwoods Mixed Use
Project No.: 13178

Prepared by: CSW
Revised By:

Date: 11/05/13
Date:

Purpose: Evaluate the required and provided retention volumes in order to assess conformance to project criteria.

First Flush

Methodology: Calculate the volume of stormwater required to be retained using City of Scottsdale criteria. Calculate the estimated volume of stormwater retained using retention basin geometry.

Criteria: Detain the first flush (first 0.5 inches of rainfall)

References:
1. Drainage Design Manual for Maricopa County, Arizona, Volume I: Hydrology, February 2011.
2. Drainage Design Manual for Maricopa County, Arizona, Volume II: Hydraulics, September 2003.

Calculations: Volume Required = $C_{Composite}$ *P/12* A [ft^3] (Reference 1)

P = 0.5 [in] (Reference 1)
C = 0.86 (Commercial) (Reference 1)
(Reference 1)

Composite C= $(C_{0.95}*A_{0.95} + C_{0.50}*A_{0.50})/A_{Total}$

Volume Required = Composite C*P/12*A

detention is 100yr 2hr this is First Flush Volume

Results:

Identifiers	CALCULATE DETENTION VOLUME REQUIRED		Volume Required	
Contributory Area ID	Area [acres]	C	[acre-ft]	[ft^3]
DA-1	0.56	0.86	0.02	870.79
DA-2	0.87	0.86	0.03	1,357.51
DA-3	0.09	0.86	0.00	140.54
DA-4	0.09	0.95	0.00	151.29
DA-5	0.48	0.88	0.02	770.88
Total Area:	**2.09**	**TOTAL VOLUME REQUIRED:**	**0.08**	**3,291.00**

HYDRAULIC CALCULATION SHEET

Retention Provided
Hubbard Engineering
Project No. 13178

Project Name: Cottonwoods Mixed Use
Project No.: 13178

Prepared By: CSW
Revised By:

Date: 11/05/13
Date:

DETENTION BASINS					
Drainage basin or tank	HW Area ft^2	Bottom Area ft^2	H ft	Volume Provided ft^3	Drainage Areas contributing to Basins
RB-1	4,921.00	2,350.00	2	7,114.43	ALL DRAINAGE AREAS
			Total ->	**7,114.43**	

7,114.43 <= Total Area @ H.W.'s

Volume Provided = $H/3*(A_{H.W.} + A_{BOTTOM} + (A_{H.W.} * A_{BOTTOM})^{0.5})$

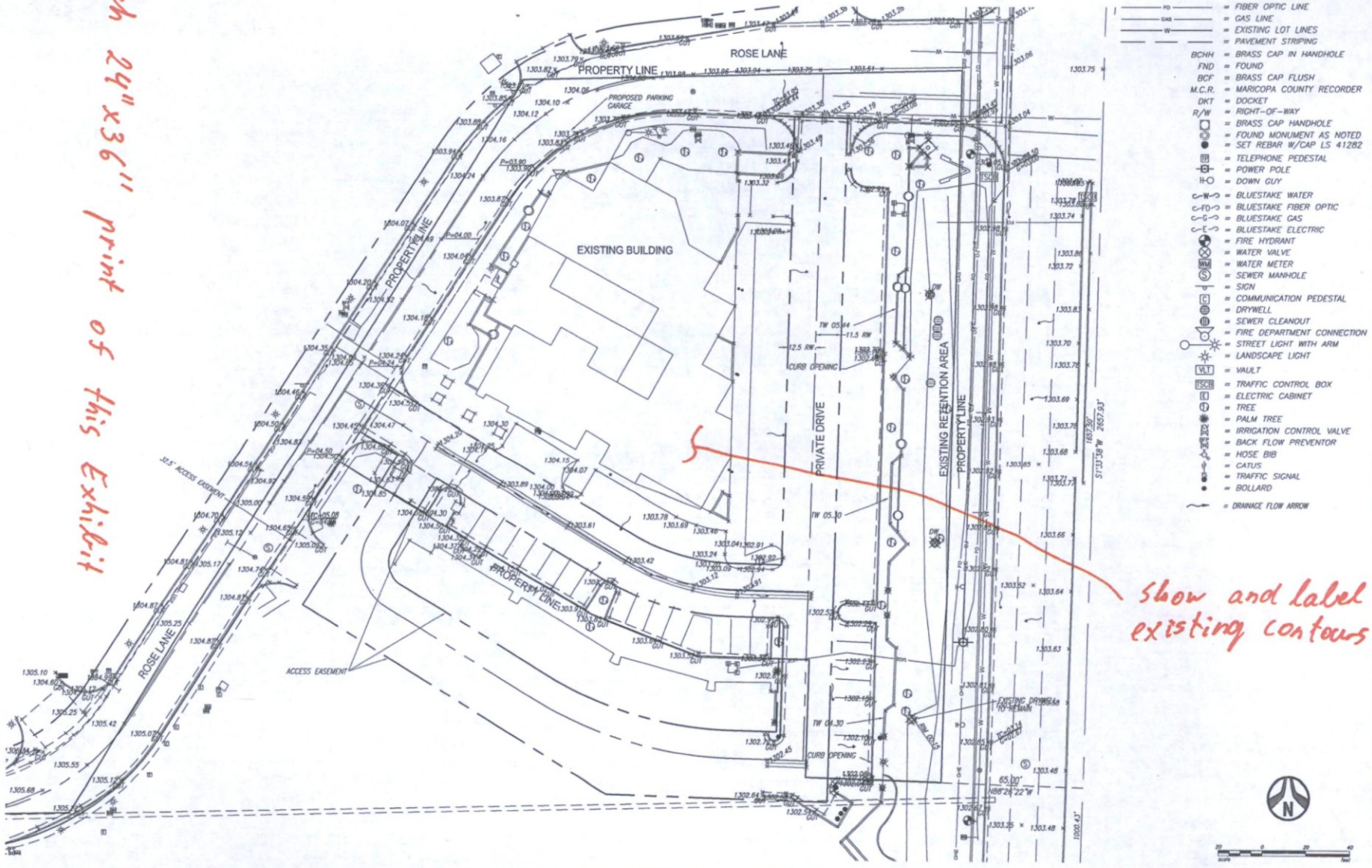
Volume does not match total volume on page 7.

Reference name of this method

Please review/revise as needed. Areas do not match Table 2 areas on page 7.

EXISTING CONDITIONS MAP
FOR
COTTONWOODS MIXED USE PROJECT

A PORTION OF THE SOUTHEAST QUARTER OF SECTION 10, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA



LEGEND:

- = SECTION LINE
- = PROPERTY LINE
- = TIE LINE
- = CONCRETE BLOCKWALL
- OHE = OVERHEAD UTILITY LINE
- UGE = UNDERGROUND UTILITY LINE
- FO = FIBER OPTIC LINE
- GAS = GAS LINE
- W = EXISTING LOT LINES
- = PAVEMENT STRIPING
- BCHH = BRASS CAP IN HANDHOLE
- FND = FOUND
- BCF = BRASS CAP FLUSH
- M.C.R. = MARICOPA COUNTY RECORDER
- DKT = DOCKET
- R/W = RIGHT-OF-WAY
- = BRASS CAP HANDHOLE
- = FOUND MONUMENT AS NOTED
- = SET REBAR W/CAP LS 41282
- = TELEPHONE PEDESTAL
- = POWER POLE
- = DOWN GUY
- = BLUESTAKE WATER
- = BLUESTAKE FIBER OPTIC
- = BLUESTAKE GAS
- = BLUESTAKE ELECTRIC
- = FIRE HYDRANT
- = WATER VALVE
- = WATER METER
- = SEWER MANHOLE
- = SIGN
- = COMMUNICATION PEDESTAL
- = DRYWELL
- = SEWER CLEANOUT
- = FIRE DEPARTMENT CONNECTION
- = STREET LIGHT WITH ARM
- = LANDSCAPE LIGHT
- VLT = VAULT
- TSCB = TRAFFIC CONTROL BOX
- = ELECTRIC CABINET
- = TREE
- = PALM TREE
- = IRRIGATION CONTROL VALVE
- = BACK FLOW PREVENTOR
- = HOSE BIB
- = CATUS
- = TRAFFIC SIGNAL
- = BOLLARD
- = DRAINAGE FLOW ARROW

Attach 24"x36" print of this Exhibit

show and label existing contours

HUBBARD ENGINEERING
1640 S. Stapley Dr. Suite 137 Mesa, AZ 85204 PH: 480.892.3313
www.hubbardengineering.com

EXISTING CONDITIONS MAP
COTTONWOODS MIXED USE PROJECT
A PORTION OF THE SOUTHEAST QUARTER OF SECTION 10 TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA

Project No.	Date
1318	11/05/13
Project Mgr.	Project Eng.
S. WOLFE	S. WOLFE

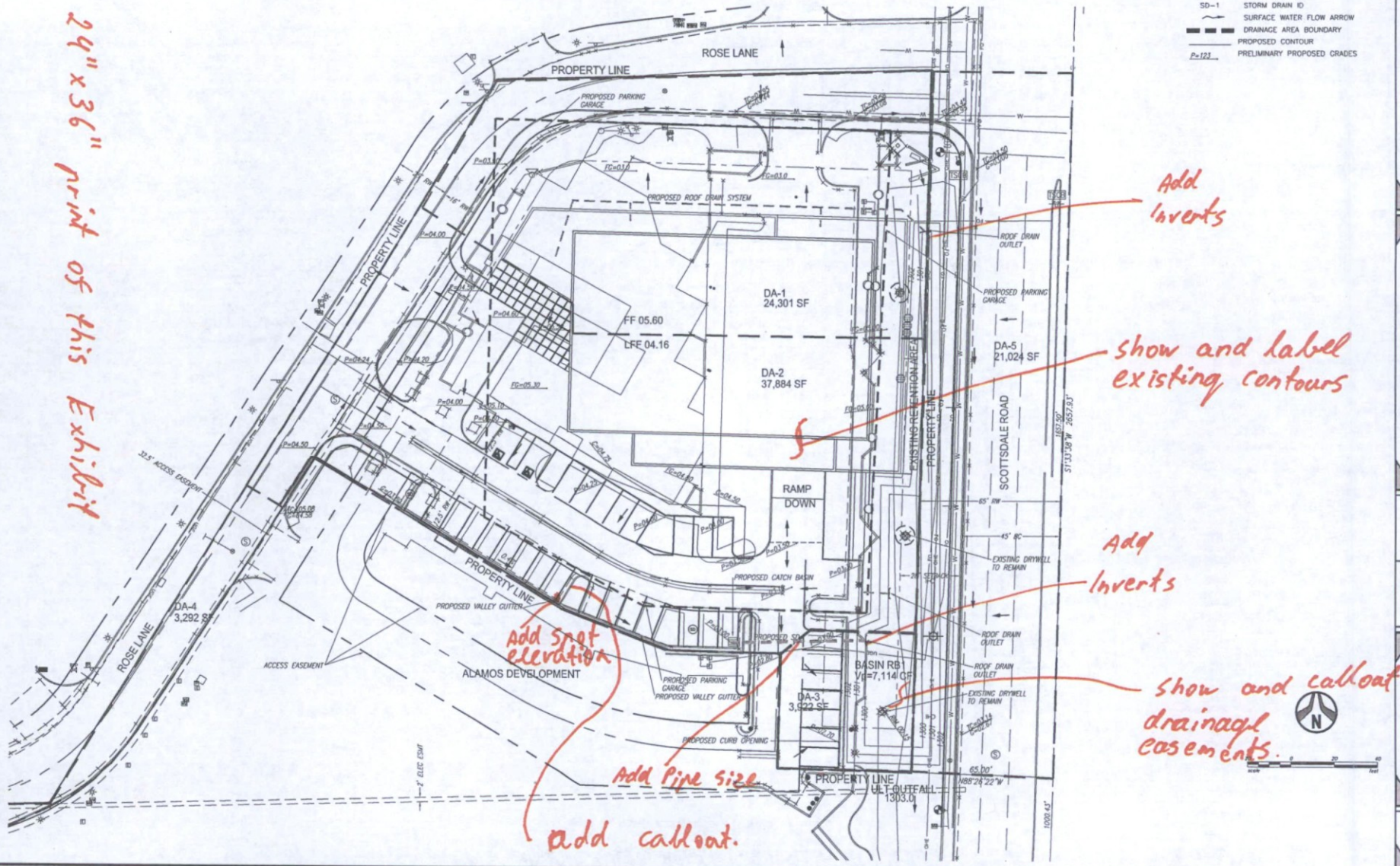
Call before you dig 811 1.800.STAKE.IT 602.263.1100

EX 1

Attach 24"x36" print of this Exhibit

PRELIMINARY GRADING AND DRAINAGE EXHIBIT
FOR
COTTONWOODS MIXED USE PROJECT

A PORTION OF THE SOUTHEAST QUARTER OF SECTION 10, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA



HUBBARD ENGINEERING
1845 S. Stapley Dr. Suite 101 Mesa, AZ 85204 PH: 480.892.3313
www.hubbardengineering.com

PRELIMINARY GRADING & DRAINAGE
COTTONWOODS MIXED USE PROJECT
TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA

Project No.	Date
13178	11/05/13
Project Mgr.	Project Eng.
S.WOLFE	S. WOLFE

Call before you dig. 1.800.STAKE.IT 602.263.1100

EX2

HUBBARD ENGINEERING

November 5, 2013

FILE COPY

City of Scottsdale
Planning Commission

Re: Cottonwoods Mixed Use Development Sewer Assessment
6160 North Scottsdale Road, Scottsdale, Az. 85253
APN # 174-65-012G
Gross Area 1.52 Acres, Net Area 0.96 Acres

We are writing on behalf of the developer, SCS Advisors, Inc., regarding the proposed Mixed Use Development located at the southwest corner of Rose Lane and Scottsdale Road. Currently a one story approximately 5,000 SF building serving as the Cottonwoods Resort Lobby and a restaurant exists on the site. The proposed plan entails demolishing the existing building and constructing a multi-level mixed use building (parking garage, surface parking, restaurant, and office space).

Hubbard Engineering has evaluated the existing and proposed sewer demands. Currently, there is an 8-inch sewer in Rose Lane that discharges to another 8-inch sewer in Scottsdale Road at a 0.33% slope which serves the Cottonwoods Resort, the Alamos, the Marriot, and the Borgata. The increase in peak flows are estimated to be approximately 61 gallons per day, and an increase in average day flows of 18 gallons per day. The existing and proposed sewer demands are attached.

Discussions through email with Doug Mann confirmed that the City of Scottsdale sewer capacity would be sufficient for the proposed project.

Sincerely,

C. Shannon Wolfe

Registered Professional Engineer (Civil)
CERTIFICATE NO.
43920
CHRISTINA SHANNON
WOLFE
Date signed ....11-05-13..
ARIZONA, U.S.A.

C. Shannon Wolfe, PE
Project Manager
Hubbard Engineering
480-398-3828

21-ZN-2013
12/16/2013

1840 S. Stapley Dr. Suite 137 Mesa, Arizona 85204 www.hubbardengineering.com phone 480 892 3313 fax 480 892 7051

Hubbard Eng. Job Name: Cottonwoods Mixed Use Project
Hubbard Eng. Job No.: 13178

Site: EXISTING

Location:

Section:	10
Township:	2N
Range:	4E
County:	Maricopa

Sewage Generation Calculations

Waste Water Source[1]:	**commercial**		
Applicable Unit[1]:	**sf**		
Sewage Design Flow per Applicable Unit, (GPD)[1]:	**1.20**	**gal/unit/day**	
Number of Units:	**5,000**	**units**	
Total GPD:	**6,000**	**gal/day**	
Waste Water Source[1]:	**not used**		
Applicable Unit[1]:	**not used**		
Sewage Design Flow per Applicable Unit, (GPD)[1]:	**0**	**gal/unit/day**	
Number of Units:	**50**	**units**	
Sub-Total GPD:	**0**	**gal/day**	
Total GPD:	**6,000**	**gal/day**	
Total Maximum:	**6,000**	**X 6.0**	
Peak Flow:	**36,000**	**gal/day**	
Total Site GPD:	**6,000**	**gal/day**	
Total Site GPD:	**4.17**	**gal/min**	
Total Site Peak Flow:	**36,000**	**gal/day**	
Total Site Peak Flow:	**25.00**	**gal/min**	

Hubbard Eng. Job Name: Cottonwoods Mixed Use Project
Hubbard Eng. Job No.: 13178

Site: PROPOSED

Location:

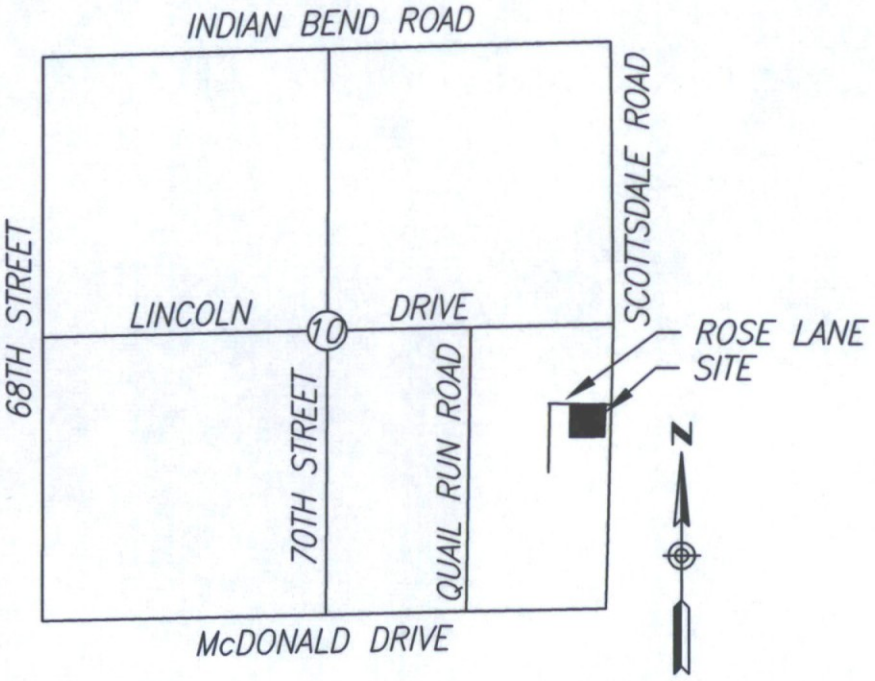
Section:	10
Township:	2N
Range:	4E
County:	Maricopa

Sewage Generation Calculations

Waste Water Source[1]:	**office**	
Applicable Unit[1]:	**sf**	
Sewage Design Flow per Applicable Unit, (GPD)[1]:	**0.40**	**gal/unit/day**
Number of Units:	**41,540**	**units**
Total GPD:	**16,616**	**gal/day**
Waste Water Source[1]:	**restaurant**	
Applicable Unit[1]:	**sf**	
Sewage Design Flow per Applicable Unit, (GPD)[1]:	**1**	**gal/unit/day**
Number of Units:	**6,605**	**units**
Sub-Total GPD:	**7,926**	**gal/day**
Total GPD:	**24,542**	**gal/day**
	7,926	**X 6.0**
	16,616	**X 3.0**
Peak Flow:	**97,404**	**gal/day**
Total Site GPD:	**24,542**	**gal/day**
Total Site GPD:	**17.04**	**gal/min**
Total Site Peak Flow:	**97,404**	**gal/day**
Total Site Peak Flow:	**67.64**	**gal/min**

HUBBARD
ENGINEERING
www.hubbardengineering.com

1840 S. Stapley Dr.
Suite 137
Mesa, AZ 85204
Ph: 480.892.3313



VICINITY MAP
THE COTTONWOODS MIXED USE PROJECT
FIGURE "1"
Scottsdale, Maricopa County, Arizona

Project No. 13178	Date 09/13/13	Sht: 1 of 1
Project Manager SHANNON WOLFE	Project Eng.	

01 CONTEXT AERIAL AND SITE PLAN
SCALE: 1"=30'

REF: NORTH

NelsenPartners
Nelsen Partners, Inc.
Architecture Planning Interiors
Austin - Scottsdale
15210 N. Scottsdale Road, Suite 300
Scottsdale, Arizona 85254
tel 480.949.6800
fax 480.949.6801
www.nelsenpartners.com

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

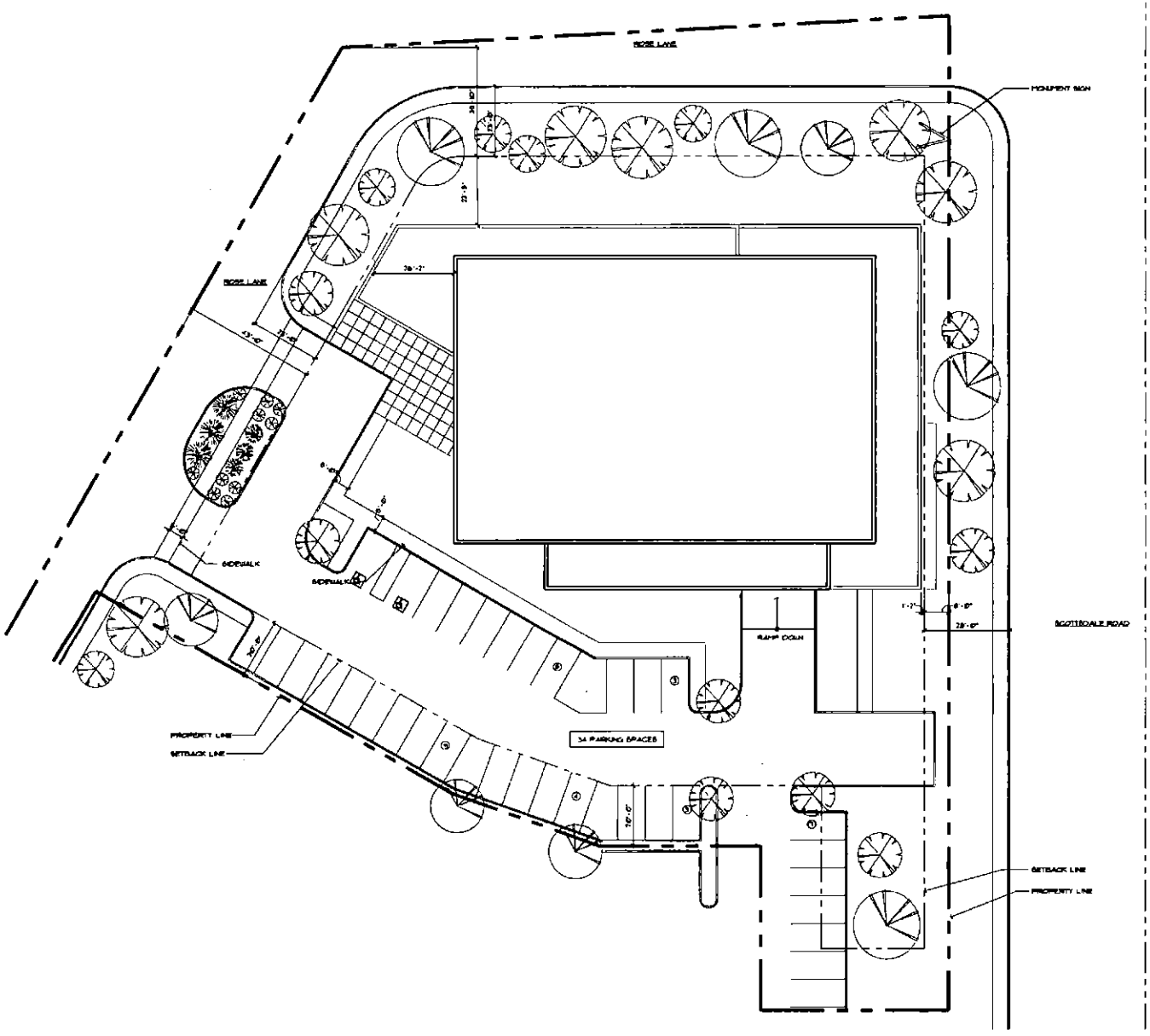
COTTONWOODS MIXED USE

SCOTTSDALE, ARIZONA

Date
July 28, 2013

Project No.
31375

A101.2
AERIAL SITE PLAN



NORTH — 01 SITE PLAN
SCALE: 1/16"=1'-0" REF:

SITE DATA

Zoning:	PUD
Gross Site Area:	66,118 SF (1.52 acres)
Net Site Area:	41,874 SF (0.96 acres)
Maximum Building Height:	48' (48' allowed)
Open Space Requirements (See A101.4 for calculations)	
Open space required (not including parking lot landscaping):	10,217 sf
Open space provided:	28,777 sf
Parking lot landscape required = 15% of total parking lot area:	2,323 sf
Parking lot landscape provided:	4,385 sf

NelsenPartners
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Architecture Planning Interiors
Austin · Scottsdale
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Scottsdale, Arizona 85254
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www.nelsenpartners.com

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

COTTONWOODS MIXED USE
SCOTTSDALE, ARIZONA

Date
July 28, 2013

Project No.
31375

A101.3
SITE PLAN

TRAFFIC IMPACT AND MITIGATION ANALYSIS (TIMA)

FOR

Cottonwoods Mixed Use Project

SWC of Scottsdale Road and Rose Lane
Scottsdale, Arizona

Prepared For:

Nelsen Partners, Inc.

Project No. 191378002
December 2013

Kimley-Horn
and Associates, Inc.

TRAFFIC IMPACT AND MITIGATION ANALYSIS (TIMA)

FOR

Cottonwoods Mixed Use Project

SWC of Scottsdale Road and Rose Lane
Scottsdale, Arizona

Prepared For:

Nelsen Partners, Inc.
15210 N. Scottsdale Road, Suite 300
Scottsdale, Arizona 85254

Prepared By:

Kimley-Horn and Associates, Inc.
7740 North 16th Street, Suite 300
Phoenix, Arizona 85020

Project No. 191378002
December 2013

Kimley-Horn
and Associates, Inc.

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1.0 INTRODUCTION

1.1 PURPOSE

This report presents the results of a Category 2 Traffic Impact and Mitigation Analysis (TIMA) of a property rezoning and redevelopment proposal identified as the Cottonwoods Mixed Use Project. The Cottonwoods Mixed Use Project proposes to redevelop 2.7 acres of property (the CMU parcel or, "Project site") located on the southwest corner of Scottsdale Road and Rose Lane. The Project Site is identified in **Figure 1**. The Project site is one of several contiguous land parcels (over 26 acres in total) collectively forming the Cottonwoods Resort (CR). The majority of the CR property (the 22.5-acre main resort site in particular) is located in the Town of Paradise Valley; just west of Scottsdale City limit. The CR guest lobby, check-in facilities, and restaurant are currently located on the Project site. Under the Cottonwoods Mixed Use redevelopment plan; and in conjunction with complementary redevelopment plans currently under review by the Town of Paradise Valley for the main resort site[1], the lobby and check-in facilities will be relocated to the Paradise Valley side of the CR property; and the 10,647 square foot single story building and 67 surface parking spaces currently occupying the Project site will be replaced with a four-story, 57,754 square foot mixed use (restaurant and office) building; and a combination of underground and surface parking.

Kimley-Horn and Associates, Inc. (KHA) has prepared this report on behalf of the applicant, to support the Cottonwoods Mixed Use rezoning application. City approval of the CMU application would rezone the Project site from Resort/Townhouse Residential (R-4R), to Planned Unit Development (PUD); and would allow the Cottonwoods Mixed Use Project to move forward in accordance with the redevelopment plan just described; and in accordance with the conceptual site plan shown in **Figure 2.**

1.2 TIMA OBJECTIVES

The TIMA for the Cottonwoods Mixed Use Project has been prepared to accomplish the following objectives:

1. Describe the Project in terms most relevant to the determination of traffic impact.
2. Quantify the trip generation potential of the Project, and relate Project trip generation to the trip generation potential of the Project site as currently zoned.
3. Identify the assumed opening year for the Project; the assumed build-out (horizon) year for the Project; and any anticipated development phasing. In the case of the Cottonwoods Mixed Use Project, opening and build-out years are assumed to be one and the same; and no phasing of the Project is anticipated.
4. Define the area of significant traffic impact (the "study area").
5. Evaluate existing peak hour traffic conditions within the study area.
6. Evaluate readily available traffic accident history for the study area.

[1] *The Paradise Valley portion of the Cottonwoods Resort affiliated property includes 22.5 acres within the Town of Paradise Valley established boundaries of an existing Special Use Permit area; and an adjacent 5.0 acre parcel (to the existing resort's southwest) the resort redevelopment plan proposes to add to the SUP area. The "in Scottsdale" CR parcels include, in addition to the CMU parcel; two other very small parcels (one 0.1 acre in size; and the other 0.9 acre in size). All three CR parcels in Scottsdale, are located along the south side of Rose Lane.*

7. Estimate and account for general population related growth in existing background traffic volumes within the study area; between now and 2016.
8. Recognize and account for other planned development projects likely to draw additional background traffic to the study area between now and 2016, regardless of whether or not the Cottonwoods Mixed Use project moves forward.
9. Distribute and assign peak hour Project traffic to the Project site driveways and study area roadway network.
10. Evaluate horizon year peak hour traffic conditions under both "with the Project", and "without the Project" scenarios. Identify any traffic operational or safety deficiencies within the study area revealed by the horizon year traffic conditions evaluation, and distinguish between deficiencies caused solely by the Project; and pre-existing deficiencies the Project will just make more significant.
11. Indicate the conditions under which the Project can be developed in a manner that allows pre-existing Level of Service to continue to be provided within the City of Scottsdale public right of way.

1.3 EXECUTIVE SUMMARY

1.3.1 Site Location

The Project site is located on the southwest corner of Scottsdale Road and Rose Lane; just inside the western boundary of the City of Scottsdale. The City's western boundary line in this vicinity, as indicated in Figure 1, runs in a north-south direction, along the 71st Street alignment. The Project site and two other parcels (0.1 acres and 0.8 acres) currently occupied by the Cottonwoods Resort-affiliated conference center are the only Cottonwoods Resort-affiliated land parcels located inside Scottsdale City limits. The other 22.5 acres of Cottonwoods Resort property (the "CR" area as it is identified in TIMA report figures) is located in the Town of Paradise Valley. A redevelopment plan for the Paradise Valley component of the Cottonwoods Resort, while recognized and specifically accounted for in this analysis (as all of the resort property relies on Rose Lane for access to the surrounding public roadway network) is not a part of this application. A copy of the CR property redevelopment-supporting traffic impact and parking analysis (also prepared by KHA) submitted to the Town of Paradise Valley as a supporting document to a Special Use Permit amendment (SUP) application for the CR property has been included with this report for reference.

1.3.2 Study Area

The area of significant influence, within the limits of the City of Scottsdale public right of way, is anticipated to be limited to points within 300 feet of the intersection returns at Rose Lane. Outside the public right of way, but still recognized and addressed as impacted area for the purposes of this report, is Rose Lane, from the western City limit (660 feet west of Scottsdale Road) to approximately 100 feet east of Scottsdale Road. Rose Lane is a private driveway within the limits just described; upon which several residential and commercial development projects rely for signalized access (and for some, the only route of vehicular access) to the public roadway network.

1.3.3 Development Description

Redevelopment as currently proposed would replace an existing single-story, 10,647 square foot commercial building, and all surface parking; with a four story, 57,754 square foot mixed use building with mostly underground parking. The proposed building will provide approximately 6,605 square feet of restaurant space, 41,540 square feet of office space and 9,609 square feet of common/accessory area.

1.3.4 Principal Findings

The existing use of the property is but one of several combinations of R-4R allowable land use that could potentially occur on the property without any zoning change; and without requiring any additional on-site parking. For the purposes of this analysis, which includes determining the relative trip generation impact of approving this rezoning request; and in recognition of the probability that over 70% of the existing building floor area will be vacated as part of previously indicated relocation plans for the Cottonwoods Resort-affiliated guest lobby and check-in facilities, an "already allowed" land use scenario has been established as the "without rezoning approval" condition. The differences between already allowed and currently proposed uses of the Project site are indicated in **Table 1**.

Table 1 – Allowable Land Use Comparison – Potential vs. Proposed

Scenario	Zoning Designation	Land Use Mix
Already Allowed (without rezoning approval)	R-4R	6,000 sf Restaurant + 4,647 sf Retail
Currently Proposed (with rezoning approval)	PUD	6,605 sf Restaurant + 51,149 sf Office and Common/Accessory Area*

* *For trip generation estimation purposes, the common/accessory area has been treated as part of the office component of the project.*

Redevelopment in accordance with the above-described proposed land use mix; and in accordance with the conceptual site plan shown in **Figure 2**, is expected to collectively result in a development that generates 1,404 vehicular trips per day, 151 of which will occur during the AM peak hour and 141 of which will occur during the PM peak hour. Relative to the above described already allowed use of the property, this constitutes an increase of 419 vehicular trips per day on Scottsdale Road, 81 of which will AM peak hour trips and 68 of which will be PM peak hour trips. This level of trip generation increase is generally not considered significant enough to warrant more than a summarized traffic impact statement.

Further analysis of the traffic implications of this Project, in the context of all of the redevelopment anticipated to occur between now and 2016 (the assumed build-out/horizon year), indicates that all currently proposed redevelopment of property relying on the Scottsdale Road/Rose Lane intersection for public street access can be reasonably accommodated through 2016 and full build out of all currently proposed redevelopment, subject to the project site access and off-site improvement recommendations identified as "recommended" in this report, being carried out before the Cottonwoods Mixed Use Project occupied and open for business. "Reasonably accommodated", for the purpose of the preceding statement, means that:

1. All traffic movements at the Scottsdale Road/Rose Lane intersection can operate at acceptable levels of service (LOS "D" or higher).
2. All projected peak hour 95th percentile left turn queues can be accommodated within their respective available storage areas, without causing spillback (within the public right of way) into an adjacent travel lane.

1.3.5 Conclusions and Recommendations

The conclusions reached through the completion of this analysis support the Cottonwoods Mixed Use rezoning request and redevelopment plan, subject to the following recommendations:

Rose Lane pavement markings, lane use control signing, and/or other traffic control features on Rose Lane should be removed and replaced, or otherwise modified, to the extent necessary to accomplish the following:

1. Improve eastbound/westbound left turn lane alignment across Scottsdale Road.
2. With regard to lane use designation on the eastbound Rose Lane approach to Scottsdale Road convert the existing shared through/left turn lane plus exclusive right turn lane configuration to an exclusive left turn lane plus shared through/right turn lane configuration.
3. With regard to the lane use on the westbound Rose Lane approach to Scottsdale Road convert the existing shared through/left turn lane plus exclusive right turn lane configuration to an exclusive left turn lane plus shared through/right turn lane configuration.
4. Provide a single westbound lane on Rose Lane that is at least 15 feet wide, from Scottsdale Road to the western City limit (71st Street alignment).
5. Optimize the signal timing splits for each movement in a manner that accounts for and takes full advantage of the above described improvements.

With regard to Project site specific access features, it is additionally recommended that

6. the easternmost of the existing Project site driveways (the one located on the south side of Rose Lane, 75 feet from Scottsdale Road) be removed; and
7. new project site driveway(s) be located such that the primary site entry drive will align with the planned (by others) north side driveway that will provide access to the future Borgata Residential development.

Kimley-Horn and Associates, Inc.

* A Full access point on the west side of Scottsdale Road serves the Residence Inn Hotel property (RI) (south of the access point) only. There is currently access to the north of the access point that serves the Alamos Residential (AR); however, access is restricted by having it chained off.

N

Not to Scale

LEGEND

- CMU — Cottonwoods Mixed Use Parcel – 2.7 Acres
- CR — Existing Cottonwoods Resort/SUP Area – 22.5 Acres *(Proposed for Development; Not a part of this application)*
- CRX — Cottonwoods Resort Expansion Parcel – 5.0 Acres *(Residential Use Proposed; Not a part of this application)*
- CC — Existing Cottonwoods Conference Center *(Not a part of this application)*
- BR — Borgata Redevelopment Site - 5.2 Acres *(Not a part of this application)*
- AT — Existing Alamos Residential *(Not a part of this application)*
- RI — Existing Marriott Residence Inn *(Not a part of this application)*

Existing Signalized Intersection

Recognized Future Signalized Intersection

STOP Stop Sign Controlled Intersection Approach

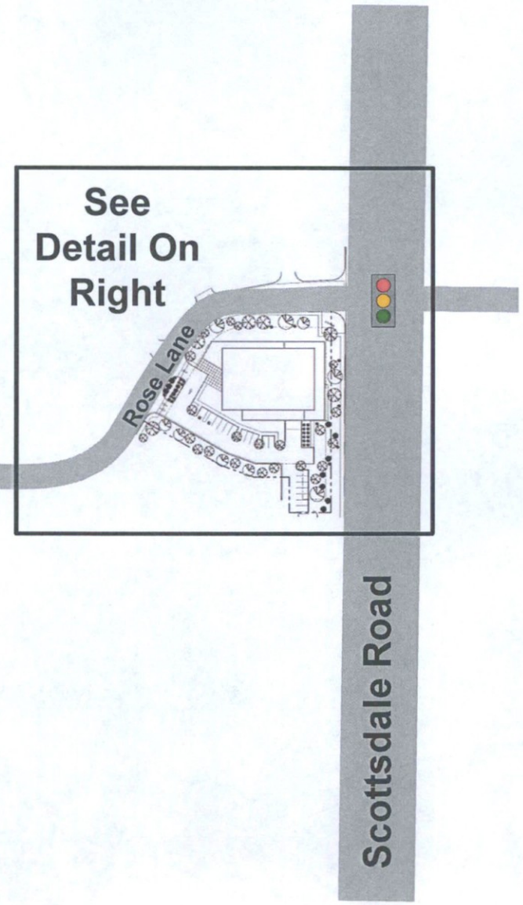
December 2013

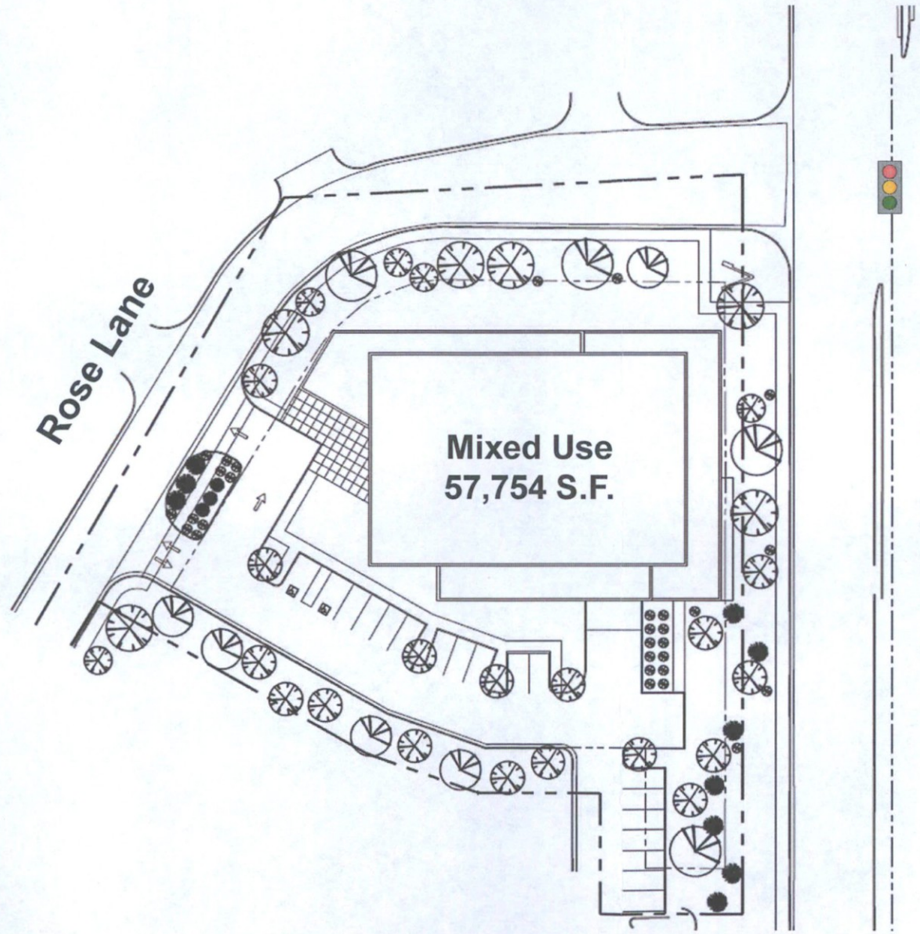
Vicinity Map and Context Plan

Cottonwoods Mixed Use – Traffic Impact and Mitigation Analysis

Figure 1

Kimley-Horn and Associates, Inc.





Not to Scale

Cottonwoods Resort Site Plan
(For Reference Only)

Cottonwoods Mixed Use Site Plan

December 2013

Cottonwoods Redevelopment Site Plan

Cottonwoods Mixed Use – Traffic Impact and Mitigation Analysis

Figure 2

2.0 AREA CONDITIONS

2.1 STUDY AREA

The area of significant influence, within the limits of the City of Scottsdale public right of way, is anticipated to be limited to points within 300 feet of the intersection returns at Rose Lane. Outside the public right of way, but still recognized and addressed as impacted area for the purposes of this report, is Rose Lane, from the western City limit (660 feet west of Scottsdale Road) to approximately 100 feet east of Scottsdale Road. Rose Lane is a private driveway within the limits just described; upon which a several residential and commercial development projects rely for signalized access (and for some the only route of vehicular access) to the public roadway network.

2.2 STUDY AREA LAND USE

Seven (7) developed (or redeveloping) properties rely on the "west of Scottsdale Road" segment of Rose Lane for public street access. Development sites with access point along the south side of Rose Lane consist of (east to west; four in total), the Project site, the Alamos residential condominium site, the Cottonwoods Resort Conference Center, and (south of and sharing access with the conference center) the Kerr Cultural Center site. North side development sites include (east to west; two in total) the remaining commercial component of what was originally the Borgata Shopping Center property (which remains occupied by restaurants); and the Borgata Residential (BR) property. The BR property is now a standalone parcel, with cross access rights through above-sited restaurant parcel, to a single right in right out only driveway on Scottsdale Road. The BR property was recently rezoned from C-2 to PUD to allow redevelopment into 216 residential condominiums.

All six of the above-cited Rose Lane adjacent properties are located within Scottsdale City limits, which end in this vicinity along the 71st Street alignment. The seventh (and largest) piece of property relying on Rose Lane for public street access is the Cottonwoods main resort site, which lies just outside Scottsdale City limits; and totally within the City of Scottsdale. The main resort side and the CMU/Project site share a common boundary line that runs north-south along the city/town limit line. The main resort side is currently occupied by 171 casita guest units, gust and employee parking, and various recreational amenities considered accessory to the guest units in terms of trip generation potential. Redevelopment plans for the main resort site (and an adjacent five acre parcel) are currently under review by the Town of Paradise Valley Planning Commission. The resort redevelopment plan proposes the following changes on the resort and resort adjacent expansion parcel:

1. The replacement of 26 existing guest casita units with 90 new hotel rooms. The hotel rooms will occupy two 45-room hotel buildings.
2. The relocation of off-site guest lobby and check-in facilities (from the Cottonwoods Mixed use site) to an on-site location within the new hotel building complex.
3. The addition of a residential component to the resort, providing 47 new single family residences.

2.3 SITE ACCESSIBILITY

The Project site is reached by turning west onto Rose Lane from Scottsdale Road; and then left/south off of Rose Lane into the property, at either of the site's two existing driveways. Rose

Lane is a private driveway to which several developed (and/or redeveloping) properties currently share access.

2.4 TRANSIT SERVICE

There are two Valley Metro bus stops located in the immediate vicinity of the Project site; one bus stop without a pullout area on the west (southbound) side of Scottsdale Road, right in front of the Project site; and one bus stop (with a pullout area) on the east (northbound) side of Scottsdale Road, just north of Rose Lane. Both bus stops are pick-up/drop off points along Route 72, which runs along Scottsdale/Rural Road, from its northern terminus at Thompson Peak Parkway, to its southern terminus at Chandler Fashion Center. Route 72 busses arrive at these two bus stops at 20-30 minute intervals all day long on weekdays and at slightly less frequent intervals late in the evenings and on weekends. Transit information for Route 72 is included in the **Appendix**.

2.5 ACCESS

The Project site is reached by turning west onto Rose Lane from Scottsdale Road; and then left/south off of Rose Lane into the property, at either of the site's two existing driveways. One of these two driveways is located only about 75 feet clear of Scottsdale Road, making the driveway of limited value during peak hours, as eastbound traffic already queues back from the intersection far enough to block ingress and egress during these periods. Rose Lane is a private driveway to which several developed (and/or redeveloping) properties currently share access. Most of the development along Rose Lane, including the Project site, relies on Rose Lane as its only vehicular connection to Scottsdale Road and the rest of the public roadway network.

2.6 PHASING AND TIMING

For the purposes of this analysis, it has been assumed that the Cottonwoods Mixed Use Project will be developed in a single phase; that the opening year will be 2016; and that the opening year and the build-out year are one and the same. It has been further assumed that, by 2016, the Borgata (Residential) and Cottonwoods (Resort/Residential) redevelopment projects – each of which is discussed in more detail later in this report) will be complete and operating at full trip generation potential as defined in the traffic impact (and mitigation) analysis documents that support their respective associated rezoning applications.

3.0 EXISTING TRAFFIC CONDITIONS

The existing street intersection of Scottsdale Road and Rose Lane was considered by City of Scottsdale traffic engineers and KHA to be appropriate for consideration in this TIMA analysis.

3.1 TRAFFIC VOLUMES

In order to establish existing traffic conditions at the Scottsdale Road and Rose Lane intersection, KHA used AM and PM peak hour traffic count data collected in December 2012 which was obtained from the *Borgata Development Traffic Impact and Mitigation Analysis (TIMA) Addendum #1* prepared by David Evans and Associates, Inc. (DEA) , dated March 1, 2013. The DEA collected count data is presented in **Figure 3**. A copy of the count data is included in the **Appendix**.

3.2 TRAFFIC CONTROL

Traffic control information regarding the phasing and timing currently in effect at Scottsdale Road and Rose Lane was obtained from the City of Scottsdale. This information has been used to analyze the study intersection, and is reflected in the Synchro model runs, output for which is attached. Signal timing information is included in the **Appendix**.

3.3 CAPACITY AND LEVEL OF SERVICE

The capacity and level of service (LOS) provided at a street or driveway intersection is a function of traffic volumes, traffic composition, roadway geometry, and the manner in which traffic is being controlled. The methodology applied to the evaluation of LOS at the existing study intersection, is based on the widely accepted guidelines and criteria found in the Transportation Research Board's Highway Capacity Manual, 2010 Edition (HCM). The level of service, as outlined in the HCM, is reported as a letter designation of LOS A through LOS F. A LOS of "A" indicates motorists are experiencing nominal delays as they attempt to pass through the intersection; whereas, a LOS of "F" indicates heavy delays being incurred. Existing traffic conditions were evaluated using SYNCHRO 8© traffic analysis software. Results of the existing conditions evaluation for the Scottsdale Road and Rose Lane intersection are summarized in **Table 2** below. Analysis outputs are included in the **Appendix**.

Table 2 – Existing Level of Service – Scottsdale Road and Rose Lane

Scenario	Movement Level of Service (A-F)												Intersection LOS Delay
	Northbound Scottsdale Road			Eastbound Rose Lane			Southbound Scottsdale Road			Westbound Rose Lane			
	L	T	R	L	T	R	L	T	R	L	T	R	
Existing AM	A	A	A	D		D	A	A	A	E		D	A 7.2
Existing PM	C	B	B	F		D	C	B	B	F		D	B 15.5

Results of the existing conditions level of service analysis indicate that, while the Scottsdale Road/Rose Lane intersection is operating at an overall acceptable level of service (LOS of C or better) during peak hours; long delays (LOS E or F) are being incurred by left turn traffic on the eastbound and westbound approaches. Based on field observations made in September 2013, of existing PM peak hour conditions at this intersection, followed by informal discussion of the same with City traffic engineering staff, it was preliminarily concluded that improved alignment of

eastbound and westbound left turn lanes across the intersection, coupled with the conversion of the existing "shared through/left turn lane + right turn only lane" eastbound and westbound approach lane designation, to a "left turn only lane + shared through/right turn lane" designation could have a positive impact on level of service for the eastbound and westbound movements that are currently operating at LOS F conditions during peak hours.

3.4 ACCIDENT HISTORY

Three years-worth (2010 - 2012) of accident data for the Scottsdale Road and Rose Lane study intersection was obtained from ADOT. The accident data indicates an average annual rate of approximately 9 crashes per year. Considering that this segment of Scottsdale Road carries over 12 million vehicles per year, this represents a crash rate[2] of less than 0.68. Approximately 70% of these have been rear-end crashes; 73% non-injury and none through 2012 resulted in a fatality. Accident data has been included in the **Appendix**.

[2] *Crash rate as defined by the FHWA = Crashes per million entering vehicles; well below the 1.0 threshold generally considered high accident locations.*

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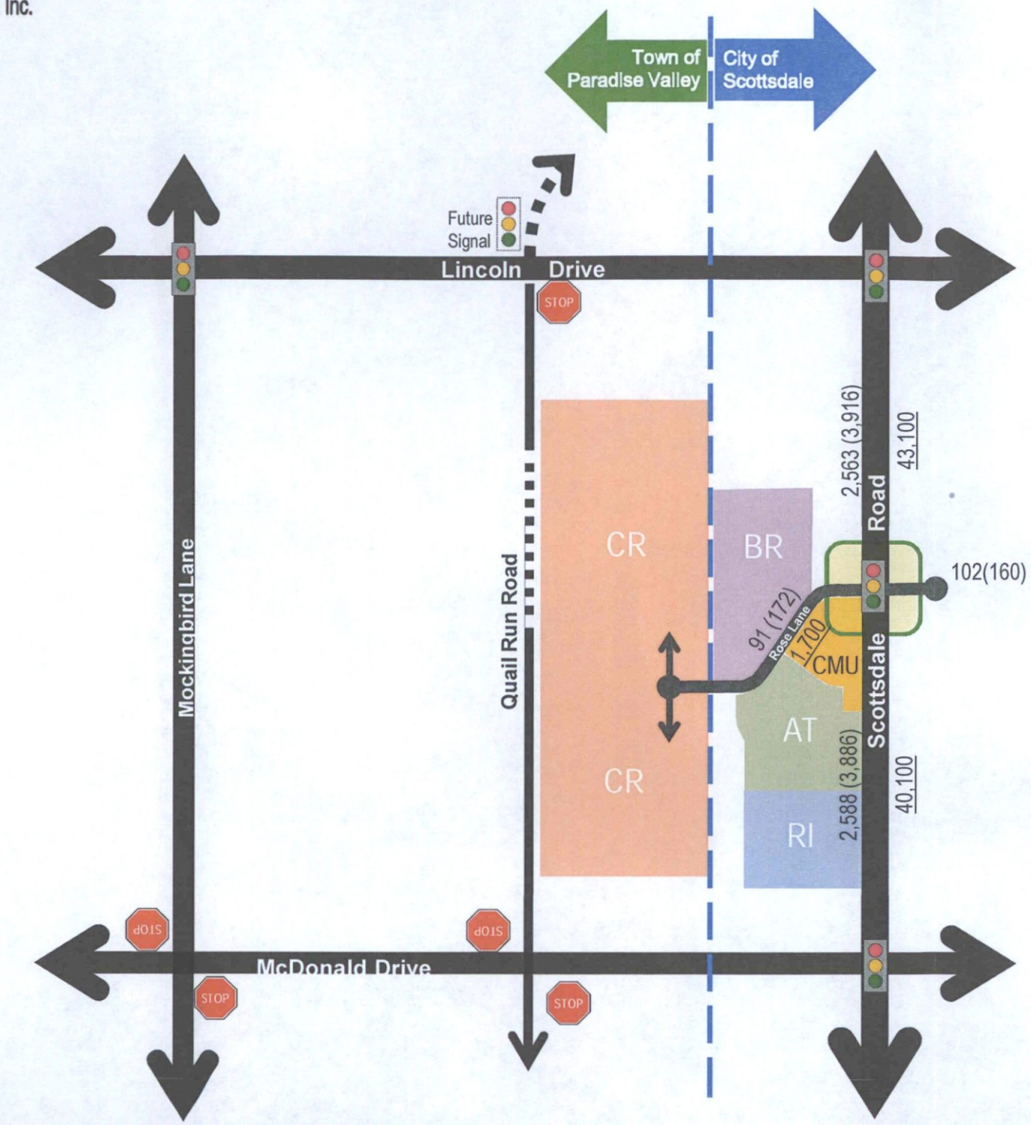
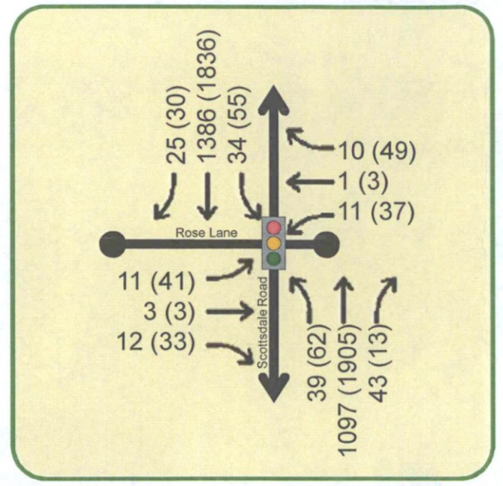


AM (PM) Peak Hour Intersection Volumes



Not to Scale

LEGEND

- Existing Roadway
- Existing Private Access Drive
- Approved Future Roadway
- Potential Future Roadway
- Signalized Intersection (Existing)
- Signalized Intersection (Recognized Future)
- STOP — Stop Sign Controlled Approach
- 102(160) — AM (PM) Peak Hour Volumes
- 1570 — Total Daily Volumes

Note: Intersection turning volumes were obtained from the *Borgata Development Transportation Impact and Mitigation Analysis Addendum #1* dated March 1, 2013. Intersection volumes were collected on Wednesday December 12th, 2012 and 24-hour ADT volumes were collected on Thursday December 6th, 2012.

December 2013

Existing (December 2012) Traffic Volumes

Cottonwoods Mixed Use – Traffic Impact and Mitigation Analysis

Figure 3

4.0 PROJECTED TRAFFIC

4.1 SITE TRAFFIC

4.1.1 Trip generation

The Institute of Transportation Engineer's (ITE) *Trip Generation, 9th Edition* was used to estimate the weekday trip generation rates for both previously approved and currently proposed uses of the site. Results of these calculations are summarized in **Table 4** and **Table 5**. Vehicular trip generation conclusions reflect consideration that the subject property has the potential to attract trips located within a short walking distance of the Cottonwoods Resort and Borgata Residential Development as well as attracting trips from the on-site office use. Therefore, a conservative estimate of twenty (20%) percent of the restaurant trips will be made without adding any vehicles to Scottsdale Road. Trip generation documentation is included in the **Appendix**.

Table 3 – Trip Generation - Potential Use of Project Site

Land Use	ITE Land Use Code	Quantity	Trips Generated						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Restaurant	932	6,000 sf	763	36	29	65	35	24	59
Retail[1]	826	4,647 sf	206	2	2	4	6	7	13
Total Trips – All Modes			**969**	**38**	**31**	**69**	**41**	**31**	**72**
20% Alternate Mode Trips			152	7	6	13	7	5	12
Total Vehicular Trips			**817**	**31**	**25**	**56**	**34**	**26**	**60**

1. ITE does not provide AM Peak Hour trip generation rates for Specialty Retail (LUC 826), so ITE's Shopping Center (LUC 820) trip rate was used for the AM Peak Hour time period estimates of the Specialty Retail component trip generation.

Table 4 – Trip Generation - Proposed Use of Project Site

Land Use	ITE Land Use Code	Quantity	Trips Generated						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Restaurant	932	6,605 sf	840	39	32	71	39	26	65
Office	710	51,149 sf	564	70	10	80	13	63	76
Total Trips – All Modes			**1,404**	**109**	**42**	**151**	**52**	**89**	**141**
20% Alternate Mode Trips			168	7	7	14	7	6	13
Total Vehicular Trips			**1,236**	**102**	**35**	**137**	**45**	**83**	**128**

Table 5 – Trip Generation Comparison – Potential vs. Proposed

Scenario	Trips Generated						
		AM Peak Hour			PM Peak Hour		
	Daily	In	Out	Total	In	Out	Total
Potential	817	31	25	56	34	26	60
Proposed	1,236	102	35	137	45	83	128
Trip Generation Increase	**419**			**81**			**68**

As **Table 6** indicates, results of this analysis indicate the largest increase in peak hour trip generation that the Cottonwoods Mixed Use project will create is 81 trips; and this increase will occur during the AM peak hour of adjacent street (Scottsdale Road) traffic. Peak hour trip generation increases of fewer than 100 vehicles are generally not considered significant enough to warrant more traffic impact analysis documentation than a summarized traffic impact statement.

4.1.2 Trip distribution and Assignment

Site traffic, in the "proposed" quantities indicated in **Table 5** and **Table 6**, were assigned to the study area roadway network as the first step in estimating future peak hour traffic demands under the "proposed" scenario. Results of the site traffic assignment process and directional distribution assumptions are presented in **Figure 5**.

4.1.3 Alternative Modes

The restaurant component of the Cottonwoods Mixed Use project is likely to draw a significant portion of their peak hour traffic from complementary land uses in the immediately surrounding area, including those located in the same building (offices); and those that would walk from the existing and planned residential and resort development located immediately west of the Project site. For the purposes of this analysis, 20% of the total trip generation has been assumed as "alternate mode" trip generation; alternate mode covering both internally captured trips and externally captured trips that do not require vehicular travel within the public right of way. This modal split assumption is reflected in the trip generation tables and in the project traffic assignment figures. The remaining (external vehicular) trip generation has all been directionally distributed and assigned to the intersection of Scottsdale Road and Rose Lane.

4.2 Future Background Traffic

Developing future background traffic volume projections was the next step in estimating peak hour traffic demands. The approach by which future peak hour traffic volumes were established is detailed below:

1. Existing through volumes on Scottsdale Road, shown in **Figure 3**, were grown from 2012 to 2016 using an annual growth rate of 1.5%.
2. Borgata Residential traffic, as reported in the Borgata Residential DEA TIMA, was added to the growth-adjusted traffic volumes, to create future background traffic volumes.

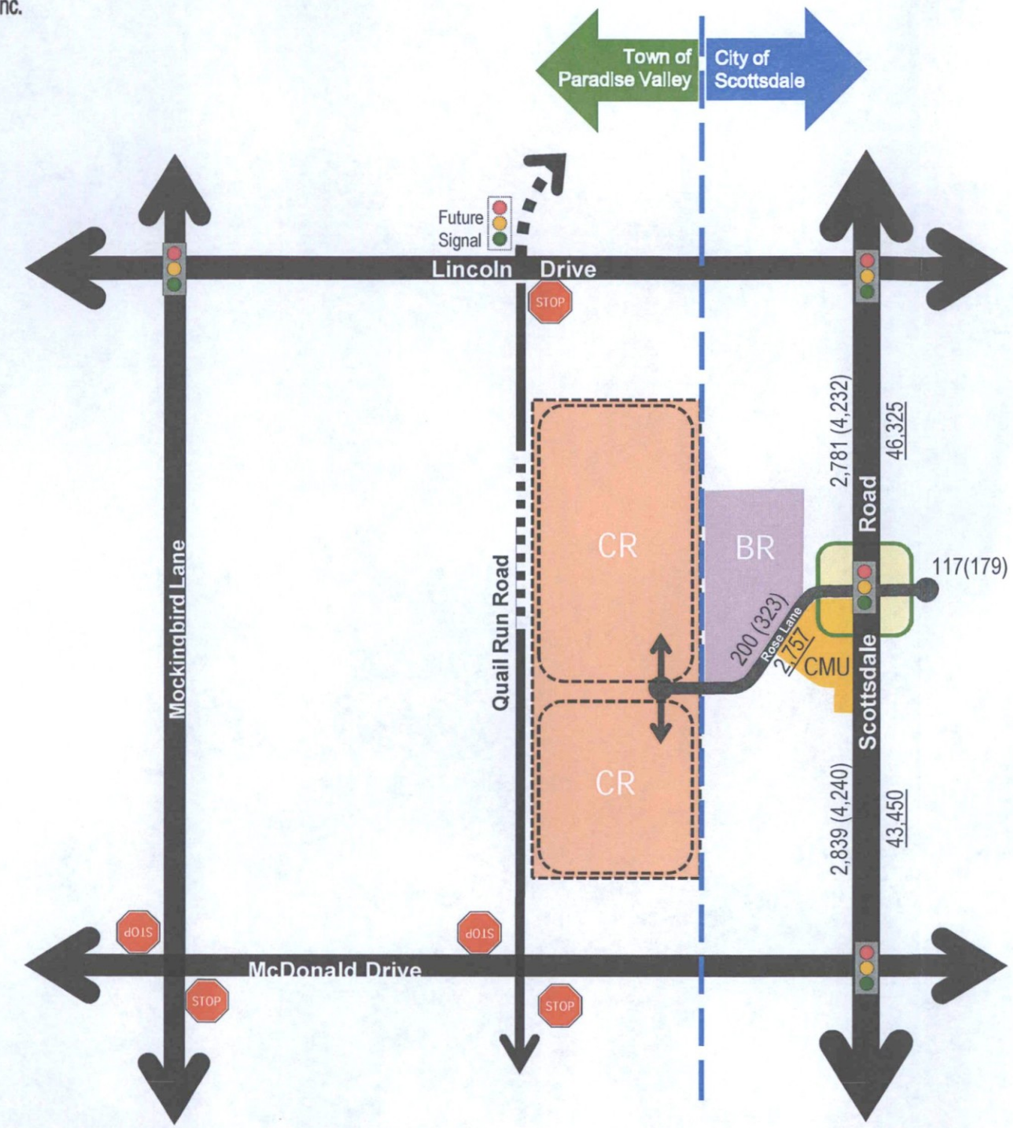
3. Cottonwoods Resort Redevelopment traffic (CRR), as reported in the Cottonwoods Resort SUP Amendment, prepared by KHA, were added to the future background traffic volumes to create future "background plus CRR" volumes.

2016 traffic volumes for both "background" and "background plus CRR" scenarios are presented in **Figure 4**.

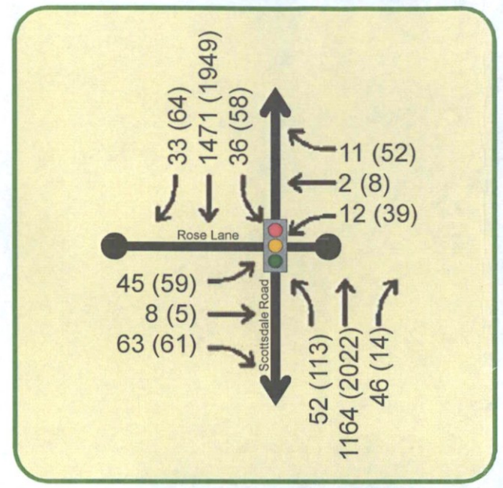
4.3 Future Total Traffic

Future "total traffic" volumes, anticipated to exist in 2016, assuming all of the currently proposed Borgata and Cottonwoods redevelopment has occurred to the full intentions of the respective project developments. These volumes were determined by adding site traffic to the "background plus CRR" volumes. 2016 total traffic volumes are presented in **Figure 6.**

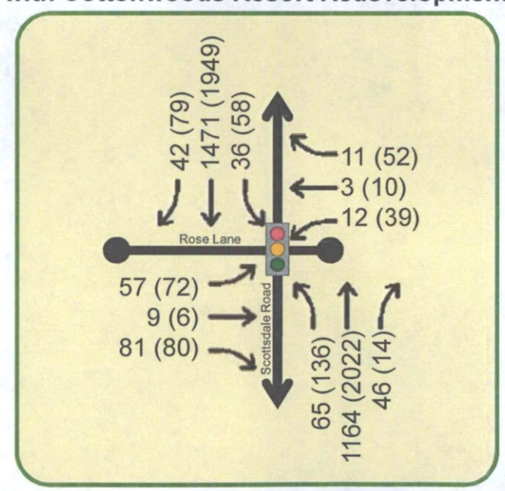
Kimley-Horn and Associates, Inc.



Background without Cottonwoods Resort Redevelopment



Background with Cottonwoods Resort Redevelopment



Not to Scale

LEGEND

- Signalized Intersection (Existing)
- Signalized Intersection (Recognized Future)
- STOP — Stop Sign Controlled Approach
- 102(160) — AM (PM) Peak Hour Volumes
- 1570 — Total Daily Volumes

December 2013

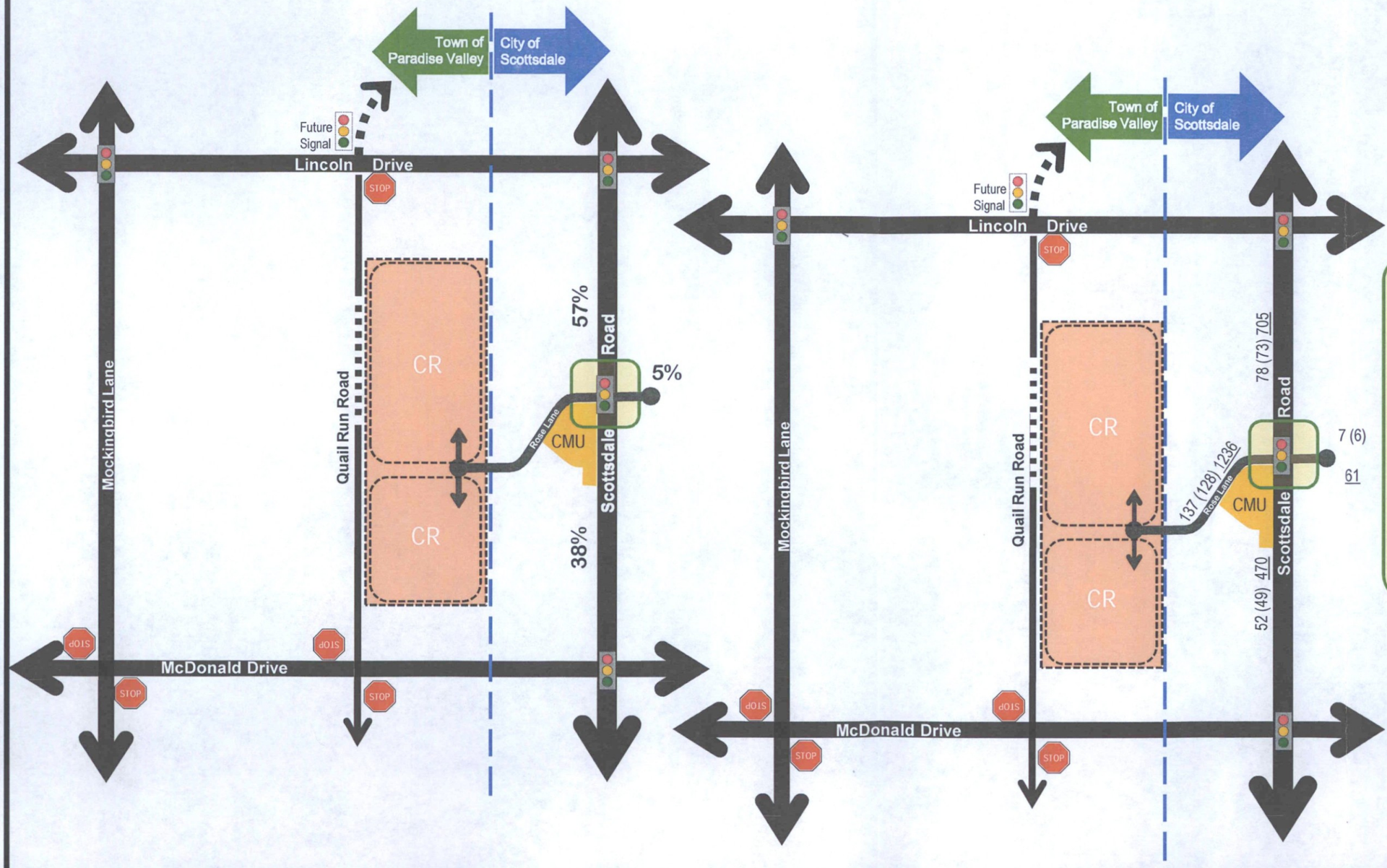
Future (2016) Background Traffic Volumes

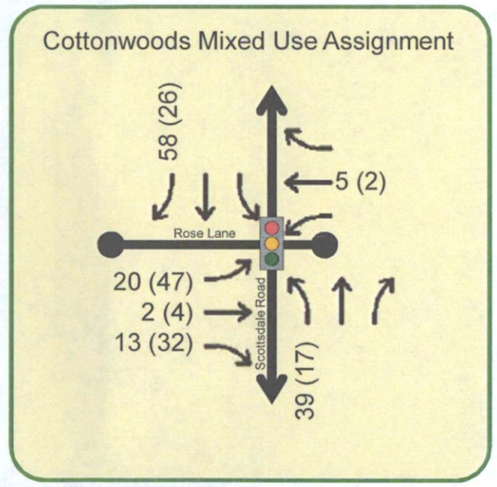
Cottonwoods Mixed Use – Traffic Impact and Mitigation Analysis

Figure 4

Kimley-Horn and Associates, Inc.

Not to Scale





LEGEND

- Signalized Intersection (Existing)
- Signalized Intersection (Recognized Future)
- STOP — Stop Sign Controlled Approach
- 102(160) — AM (PM) Peak Hour Volumes
- 1570 — Total Daily Volumes

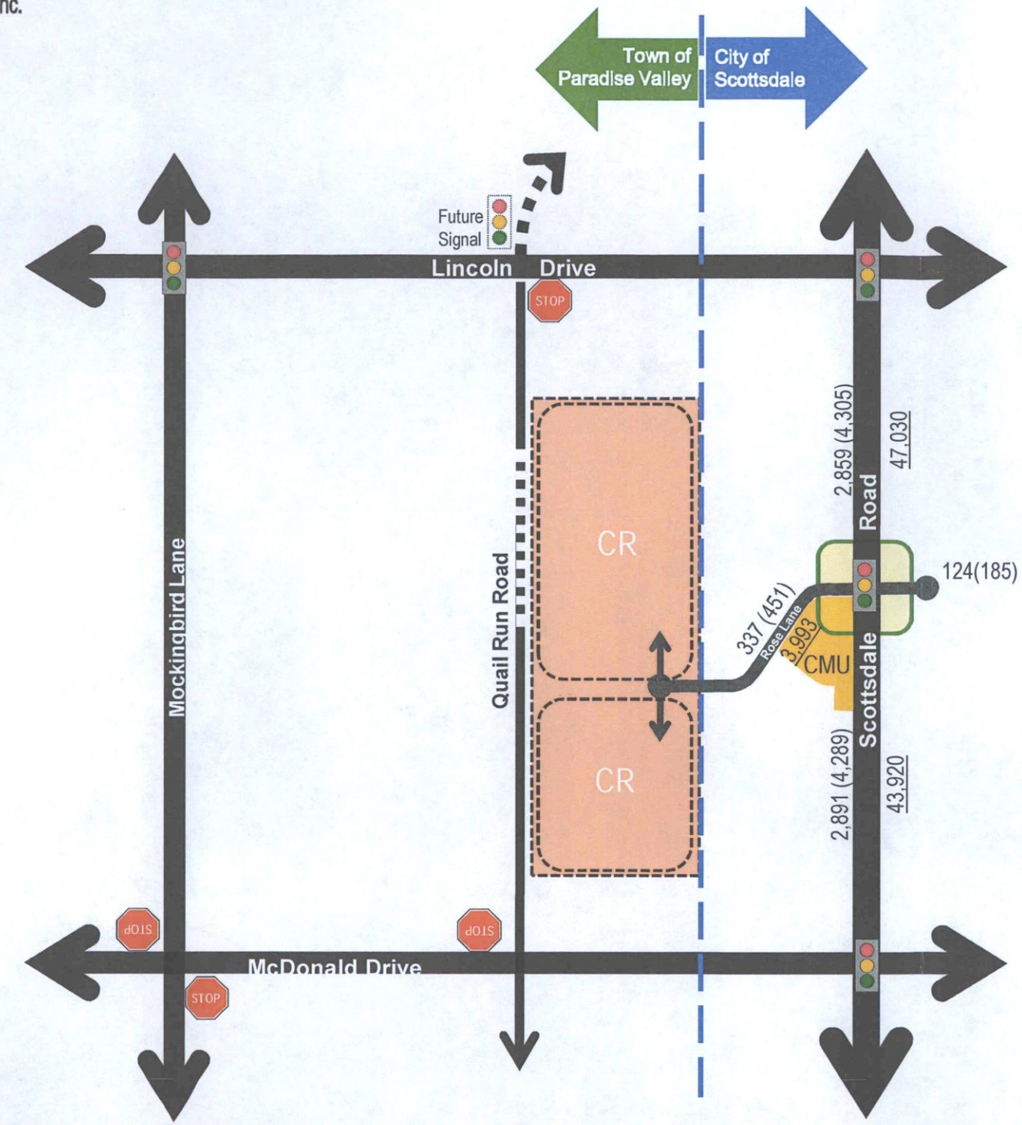
December 2013

Project Trip Distribution & Traffic Assignment

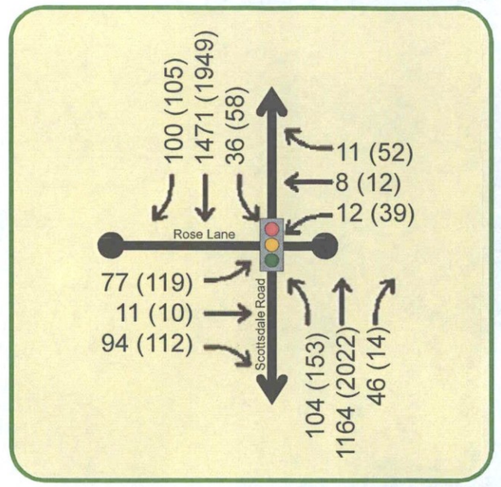
Cottonwoods Mixed Use – Traffic Impact and Mitigation Analysis

Figure 5

Kimley-Horn and Associates, Inc.



AM (PM) Peak Hour Intersection Volumes



Not to Scale

LEGEND

- Signalized Intersection (Existing)
- Signalized Intersection (Recognized Future)
- STOP — Stop Sign Controlled Approach
- 102(160) — AM (PM) Peak Hour Volumes
- 1570 — Total Daily Volumes

December 2013

Future (2016) Traffic Volumes With All Planned Cottonwoods Redevelopment

Cottonwoods Mixed Use – Traffic Impact and Mitigation Analysis

Figure 6

5.0 FUTURE TRAFFIC CONDITIONS

5.1 CAPACITY AND LEVEL OF SERVICE

Post-redevelopment conditions at the Scottsdale Road and Rose Lane intersection, under a "no mitigation" scenario were analyzed using the same methodologies and techniques used to analyze existing conditions, as discussed earlier in this report. Results are reported in the "2016 Background" and "2016 Background plus CRR" scenarios.

The analysis was conducted under the existing lane geometry and signal timings and comparing several mitigation options to determine their effectiveness and impact on traffic operations. Those mitigation options include:

1. Eastbound and westbound Rose Lane approaches to Scottsdale Road converted to an exclusive left turn lane plus shared through/right turn lane configuration and optimization of signal timing splits.
2. The eastbound approach being converted to include a single left-turn lane, through lane, and exclusive right lane and the westbound approach being converted to an exclusive left turn lane plus shared through/right turn lane configuration. Optimization of the signal timing splits.
3. Eastbound and westbound approaches to Scottsdale Road converted to an exclusive left turn lane, through lane, and right turn lane configuration and optimizing signal timing splits.
4. Eastbound and westbound approaches to Scottsdale Road converted to an exclusive left turn lane, through lane, and right turn lane configuration. Modifications to the signal timing to add a protected left turn phase for the eastbound and westbound approaches and optimize signal timing splits.

Results of these analyses are summarized in **Table 7** and **Table 8**. Summarized analysis results consist of the two background scenarios: "2016 Background" and "2016 Background plus CRR" and the two post development scenarios: 2016 Total-Unmitigated, without any off-site improvements, and 2016 Total-Mitigated, with recommended off-site improvements mentioned in mitigation option 1 and shown in **Figure 7**. All other mitigation options although considered in this analysis did not generate any significant improvement to the LOS are not recommended at this time. Analysis outputs are included in the **Appendix** for reference.

Table 6 – 2016 Level of Service: AM Peak Hour

Scenario	Movement Level of Service (A-F)												Intersection LOS Delay
	Northbound Scottsdale Road			Eastbound Rose Lane			Southbound Scottsdale Road			Westbound Rose Lane			
	L	T	R	L	T	R	L	T	R	L	T	R	
2016 Background	A	A	A	F		D	A	A	A	E		D	B 11.7
2016 Background + CRR[1]	B	A	A	F		D	A	A	A	E		D	B 14.5
2016 Total-Unmitigated[2]	B	A	A	F		E	B	A	A	D		D	C 22.9
2016 Total-Mitigated[3]	B	A	A	D	D		A	B	B	D	D		B 12.0

Table 7 – 2016 Level of Service: PM Peak Hour

Scenario	Movement Level of Service (A-F)												Intersection LOS Delay
	Northbound Scottsdale Road			Eastbound Rose Lane			Southbound Scottsdale Road			Westbound Rose Lane			
	L	T	R	L	T	R	L	T	R	L	T	R	
2016 Background	D	B	B	F		D	C	B	B	F		D	C 19.9
2016 Background + CRR[1]	D	B	B	F		D	C	B	B	F		D	C 22.7
2016 Total-Unmitigated[2]	D	B	B	F		D	C	B	B	F		D	D 39.0
2016 Total-Mitigated[3]	D	B	B	D	D		C	B	C	D	D		C 20.5

Notes: 1 - "CRR" Stand for Cottonwoods Resort Redevelopment
2 - "Unmitigated" mean without any off-site improvements
3 - "Mitigation" means with recommended off-site improvements

Results of the analysis indicate that with the implementation of mitigation option 1 the study intersection will continue to operate at acceptable levels of service (LOS of C or better) during peak hours for the northbound and southbound through movements while the left turning movements and minor street approaches will operate at slightly lower than acceptable conditions (LOS of D) during the AM and PM peak hours, with average driver delays in the range of 40-55 seconds per vehicle.

5.2 Intersection Queuing Analysis

The Scottsdale Road and Rose Lane intersection was analyzed to establish left turn storage needs for projected 2016 traffic conditions. Since the PM peak hour volumes are higher, the 2016 PM peak future traffic conditions were used to establish turn lane length recommendations. The left turn storage lengths were determined for the study intersection by using 95th percentile queue lengths from Synchro8© analysis software. Results from the left-turn storage length analysis are presented in **Table 9**. Documentation of the queuing analysis is provided in the **Appendix**.

Table 8 - Left-Turn Storage Recommendations

Intersection Left Turn Movement	Existing Storage Length (ft)	Calculated 95th Percentile Queues (ft)	Recommended Storage Length (ft)
Scottsdale Road and Rose Lane (Signalized)			
NB Left	170	200	Existing is Adequate
SB Left	170	100	Existing is Adequate
EB Left[1]	See note 1	175	175
WB Left[1]	See note 1	75	75

1. *Left turn movement is a shared left/through movement without mitigation.*

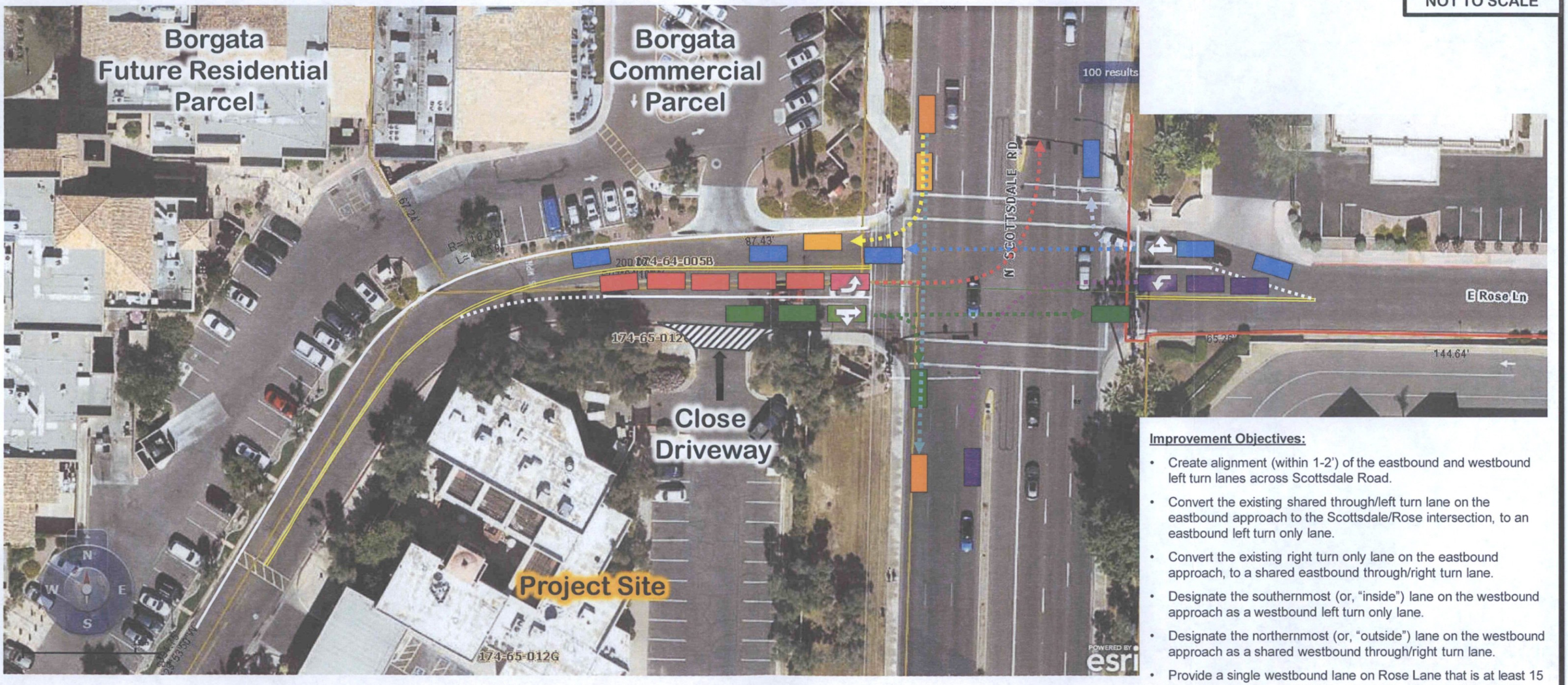
The left turn lane storage at the study intersection in 2016 with recommended mitigation measures can accommodate future queue lengths at all left turning movements. The eastbound left turning back of queue is anticipated to block traffic exiting the driveway on the north side of Rose Lane in close proximity to Scottsdale Road during the peak hours. This exiting traffic making a left turn from this driveway will likely reroute to other available driveways to exit during this time period.

5.3 ON-SITE DRIVEWAY STORAGE

Traffic exiting the proposed site is not anticipated to experience significant delays waiting to turn onto Rose Lane because of the relatively low volumes on this roadway. It is recommended that 50 of on-site storage be provided for site driveways.

Kimley-Horn and Associates, Inc.

NOT TO SCALE



Improvement Objectives:

- Create alignment (within 1-2') of the eastbound and westbound left turn lanes across Scottsdale Road.
- Convert the existing shared through/left turn lane on the eastbound approach to the Scottsdale/Rose intersection, to an eastbound left turn only lane.
- Convert the existing right turn only lane on the eastbound approach, to a shared eastbound through/right turn lane.
- Designate the southernmost (or, "inside") lane on the westbound approach as a westbound left turn only lane.
- Designate the northernmost (or, "outside") lane on the westbound approach as a shared westbound through/right turn lane.
- Provide a single westbound lane on Rose Lane that is at least 15 feet wide, from Scottsdale Road to the western City limit (71st Street alignment).

December 2013

Recommended Capacity Improvements – "Mitigation Option 1"

Cottonwoods Mixed Use – Traffic Impact and Mitigation Analysis

Figure 7

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

The requested zoning change, for the purposes of creating he Cottonwoods Mixed Use Project described in this report, is anticipated to increase peak hour trip generation by approximately 81 trips. This trip generation increase will cause an increase in peak hour traffic volumes at the adjacent Scottsdale Road/Rose Lane intersection of less than 2%. This analysis has determined that there is adequate physical capacity within the public right of way (roadway width and turn lane storage length) to accommodate this increase without sacrificing what is typically considered "acceptable level of service" (LOS D or better) for any traffic movement at the intersection subject to the improvements cited as recommended, below being carried to completion before the proposed mixed use building is occupied and open for business. Under these conditions, the TIMA supports the rezoning and the Cottonwoods Mixed Use redevelopment plan.

6.2 RECOMMENDATIONS

It is recommended that Rose Lane pavement markings, lane use control signing, and/or other traffic control features on Rose Lane be removed and replaced, or otherwise modified, to the extent necessary to accomplish the following:

1. Improve eastbound/westbound left turn lane alignment across Scottsdale Road.
2. With regard to lane use designation on the eastbound Rose Lane approach to Scottsdale Road convert the existing shared through/left turn lane plus exclusive right turn lane configuration to an exclusive left turn lane plus shared through/right turn lane configuration.
3. With regard to the lane use on the westbound Rose Lane approach to Scottsdale Road convert the existing shared through/left turn lane plus exclusive right turn lane configuration to an exclusive left turn lane plus shared through/right turn lane configuration.
4. Provide a single westbound lane on Rose Lane that is at least 15 feet wide, from Scottsdale Road to the western City limit (71st Street alignment).
5. Optimize the signal timing splits for each movement in a manner that accounts for and takes full advantage of the above described improvements.

With regard to Project site specific access features, it is additionally recommended that

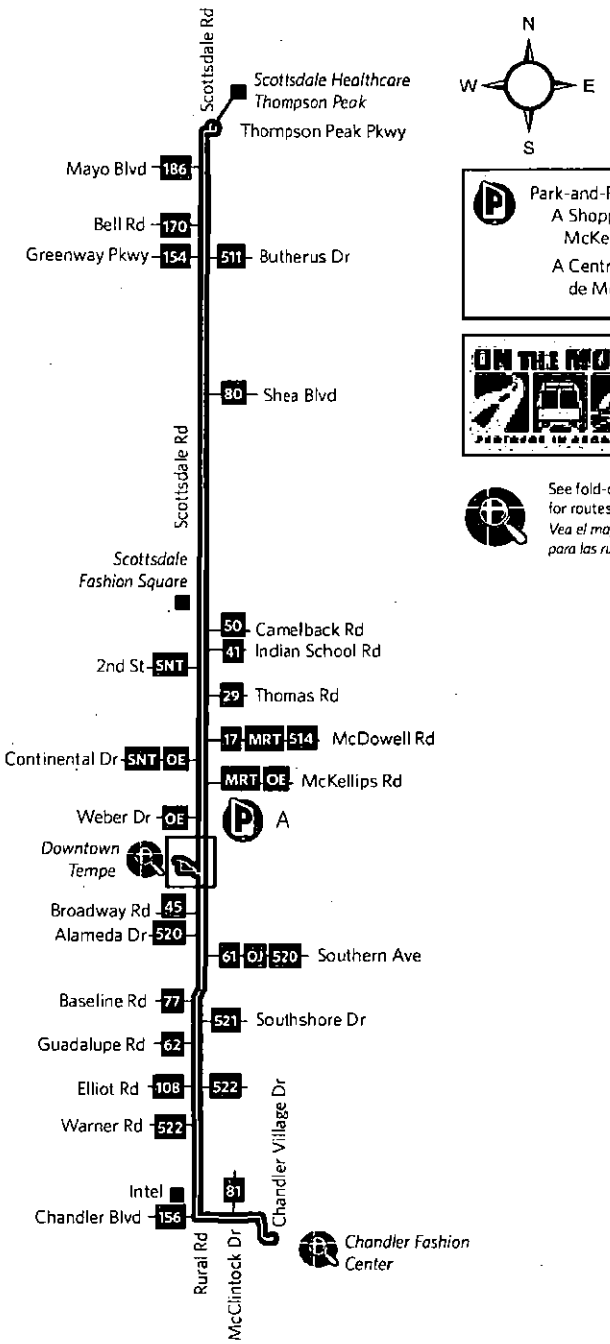
6. the easternmost of the existing Project site driveways (the one located on the south side of Rose Lane, 75 feet from Scottsdale Road) be removed;
7. new project site driveways be located such that the primary site entry drive will align with the planned (by others) north side driveway that will provide access to the future Borgata Residential development.

7.0 APPENDIX

Appendix A

Transit Service Information

Route 72 — Scottsdale/Rural



Route 72 — Scottsdale/Rural

Monday-Friday Northbound
Lunes a Viernes, Rumbo al norte

CHANDLER FASHION CTR	RURAL AT CHANDLER BLVD	RURAL AT RAY	ELLIOT AT RURAL	RURAL AT SOUTHERN	TEMPE TRANS CTR	SCOTTSDALE RD AT MCDOWELL	SCOTTSDALE RD AT INDIAN SCHOOL	SCOTTSDALE RD AT LINCOLN	SCOTTSDALE RD AT SHEA	SCOTTSDALE RD AT THUNDERBIRD	SCOTTSDALE RD AT FLW	SCOTTSDALE HEALTHCARE THOMPSON PEAK
		4:54	5:00	5:14	5:28	5:46	5:56	6:06	6:16	6:22	6:28	6:37
		5:14	5:20	5:34	5:48	6:06	6:16	6:26	6:36	6:42	6:48	6:57
		5:34	5:40	5:54	6:08	6:26	6:36	6:46	6:56	7:02	7:08	7:17
5:45	5:51	5:54	6:00	6:14	6:28	6:46	6:56	7:06	7:16	7:22	7:28	7:37
6:05	6:11	6:14	6:20	6:34	6:48	7:06	7:16	7:26	7:36	7:42	7:48	7:57
6:25	6:31	6:34	6:40	6:54	7:08	7:26	7:36	7:46	7:56	8:02	8:08	8:17
6:45	6:51	6:54	7:00	7:14	7:28	7:46	7:56	8:06	8:16	8:22	8:28	8:37
7:05	7:11	7:14	7:20	7:34	7:48	8:06	8:16	8:26	8:36	8:42	8:48	8:57
7:25	7:31	7:34	7:40	7:54	8:08	8:26	8:36	8:46	8:56	9:02	9:07	9:16
7:45	7:51	7:54	8:00	8:14	8:28	8:46	8:56	9:06	9:16	9:21	9:26	9:35
8:05	8:11	8:14	8:20	8:34	8:48	9:06	9:16	9:26	9:36	9:41	9:46	9:55
8:24	8:30	8:33	8:39	8:53	9:08	9:26	9:36	9:46	9:56	10:01	10:06	10:15
8:44	8:50	8:53	8:59	9:12	9:28	9:46	9:56	10:06	10:16	10:21	10:26	10:35
9:04	9:10	9:13	9:19	9:32	9:48	10:06	10:16	10:26	10:36	10:41	10:46	10:55
9:24	9:30	9:33	9:39	9:52	10:08	10:26	10:36	10:46	10:56	11:01	11:06	11:15
9:44	9:50	9:53	9:59	10:12	10:28	10:46	10:56	11:06	11:16	11:21	11:26	11:35
10:04	10:10	10:13	10:19	10:32	10:48	11:06	11:16	11:26	11:36	11:41	11:46	11:55
10:24	10:30	10:33	10:39	10:52	11:08	11:26	11:36	11:46	11:56	**12:01**	**12:06**	**12:15**
10:44	10:50	10:53	10:59	11:12	11:28	11:46	11:56	**12:06**	**12:16**	**12:21**	**12:26**	**12:35**
11:04	11:10	11:13	11:19	11:32	11:48	**12:06**	**12:16**	**12:26**	**12:36**	**12:41**	**12:46**	**12:55**
11:24	11:30	11:33	11:39	11:52	**12:08**	**12:26**	**12:36**	**12:46**	**12:56**	**1:01**	**1:07**	**1:16**
11:44	11:50	11:53	11:59	**12:12**	**12:28**	**12:46**	**12:56**	**1:07**	**1:17**	**1:23**	**1:29**	**1:38**
12:04	**12:10**	**12:13**	**12:19**	**12:32**	**12:48**	**1:07**	**1:17**	**1:29**	**1:39**	**1:45**	**1:51**	**2:00**
12:24	**12:30**	**12:33**	**12:39**	**12:52**	**1:08**	**1:28**	**1:38**	**1:50**	**2:00**	**2:06**	**2:12**	**2:21**
12:44	**12:50**	**12:53**	**12:59**	**1:12**	**1:28**	**1:48**	**1:58**	**2:10**	**2:20**	**2:26**	**2:32**	**2:41**
1:04	**1:10**	**1:13**	**1:19**	**1:32**	**1:48**	**2:08**	**2:18**	**2:30**	**2:40**	**2:46**	**2:52**	**3:01**
1:24	**1:30**	**1:33**	**1:39**	**1:52**	**2:08**	**2:28**	**2:38**	**2:50**	**3:00**	**3:06**	**3:12**	**3:21**
1:44	**1:50**	**1:53**	**1:59**	**2:12**	**2:28**	**2:48**	**2:58**	**3:10**	**3:20**	**3:26**	**3:32**	**3:41**
2:04	**2:10**	**2:13**	**2:19**	**2:32**	**2:48**	**3:08**	**3:18**	**3:30**	**3:40**	**3:46**	**3:52**	**4:01**
2:24	**2:30**	**2:33**	**2:39**	**2:52**	**3:08**	**3:28**	**3:38**	**3:50**	**4:00**	**4:06**	**4:12**	**4:21**
2:44	**2:50**	**2:53**	**2:59**	**3:12**	**3:28**	**3:48**	**3:58**	**4:10**	**4:20**	**4:26**	**4:32**	**4:41**
3:04	**3:10**	**3:13**	**3:19**	**3:32**	**3:48**	**4:08**	**4:18**	**4:30**	**4:40**	**4:46**	**4:52**	**5:01**
3:24	**3:30**	**3:33**	**3:39**	**3:52**	**4:08**	**4:28**	**4:38**	**4:50**	**5:00**	**5:06**	**5:12**	**5:21**
3:44	**3:50**	**3:53**	**3:59**	**4:12**	**4:28**	**4:48**	**4:58**	**5:10**	**5:20**	**5:26**	**5:32**	**5:41**
4:04	**4:10**	**4:13**	**4:19**	**4:32**	**4:48**	**5:08**	**5:18**	**5:30**	**5:40**	**5:46**	**5:52**	**6:01**
4:24	**4:30**	**4:33**	**4:39**	**4:52**	**5:08**	**5:28**	**5:38**	**5:50**	**6:00**	**6:06**	**6:12**	**6:21**
4:44	**4:50**	**4:53**	**4:59**	**5:12**	**5:28**	**5:48**	**5:58**	**6:10**	**6:20**	**6:26**	**6:32**	**6:39**
5:04	**5:10**	**5:13**	**5:19**	**5:32**	**5:48**	**6:08**	**6:18**	**6:30**	**6:38**	**6:43**	**6:48**	**6:55**
5:24	**5:30**	**5:33**	**5:39**	**5:52**	**6:08**	**6:28**	**6:37**	**6:46**	**6:54**	**6:59**	**7:04**	**7:11**
5:46	**5:52**	**5:55**	**6:01**	**6:14**	**6:30**	**6:46**	**6:55**	**7:04**	**7:12**	**7:17**	**7:22**	**7:29**
6:21	**6:27**	**6:30**	**6:36**	**6:46**	**7:00**	**7:16**	**7:25**	**7:34**	**7:42**	**7:47**	**7:52**	**7:59**
6:51	**6:57**	**7:00**	**7:06**	**7:16**	**7:30**	**7:46**	**7:55**	**8:04**	**8:12**	**8:17**	**8:22**	**8:29**
7:21	**7:27**	**7:30**	**7:36**	**7:46**	**8:00**	**8:16**	**8:25**	**8:34**	**8:42**	**8:47**	**8:52**	**8:59**
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8:21	**8:27**	**8:30**	**8:36**	**8:46**	**9:00**	**9:16**	**9:25**	**9:34**	**9:42**	**9:47**	**9:52**	**9:59**
8:51	**8:57**	**9:00**	**9:06**	**9:16**	**9:30**	**9:46**	**9:55**	**10:04**	**10:12**	**10:17**	**10:22**	**10:29**

Monday-Friday Southbound
Lunes a Viernes, Rumbo al sur

SCOTTSDALE HEALTHCARE THOMPSON PEAK	SCOTTSDALE RD AT FLW	SCOTTSDALE RD AT THUNDERBIRD	SCOTTSDALE RD AT SHEA	SCOTTSDALE RD AT LINCOLN	SCOTTSDALE RD AT INDIAN SCHOOL	SCOTTSDALE RD AT MCDOWELL	TEMPE TRANS CTR	RURAL AT SOUTHERN	ELLIOT AT RURAL	RURAL AT RAY	RURAL AT CHANDLER BLVD	CHANDLER FASHION CTR
							5:17	5:35	5:47	5:53	5:56	6:02
							5:37	5:55	6:07	6:13	6:16	6:22
4:54	5:01	5:08	5:13	5:23	5:32	5:41	5:57	6:15	6:27	6:33	6:36	6:42
5:14	5:21	5:28	5:33	5:43	5:52	6:01	6:17	6:35	6:47	6:53	6:56	7:02
5:34	5:41	5:48	5:53	6:03	6:12	6:21	6:37	6:55	7:07	7:13	7:16	7:22
5:54	6:01	6:08	6:13	6:23	6:32	6:41	6:57	7:15	7:27	7:33	7:36	7:42
6:14	6:21	6:28	6:33	6:43	6:52	7:01	7:17	7:35	7:47	7:53	7:56	8:02
6:34	6:41	6:48	6:53	7:03	7:12	7:21	7:37	7:55	8:07	8:13	8:16	8:22
6:54	7:01	7:08	7:13	7:23	7:32	7:41	7:57	8:15	8:27	8:33	8:36	8:42
7:14	7:21	7:28	7:33	7:43	7:52	8:01	8:17	8:35	8:47	8:53	8:56	9:02
7:34	7:41	7:48	7:53	8:03	8:12	8:21	8:37	8:55	9:06	9:12	9:15	9:21
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9:31	9:38	9:45	9:51	10:01	10:11	10:21	10:37	10:55	11:06	11:12	11:15	11:21
9:51	9:58	10:05	10:11	10:21	10:31	10:41	10:57	11:15	11:26	11:32	11:35	11:41
10:11	10:18	10:25	10:31	10:41	10:51	11:01	11:17	11:35	11:46	11:52	11:55	**12:01**
10:31	10:38	10:45	10:51	11:01	11:11	11:21	11:37	11:55	**12:06**	**12:12**	**12:15**	**12:21**
10:51	10:58	11:05	11:11	11:21	11:31	11:41	11:57	**12:15**	**12:26**	**12:32**	**12:35**	**12:41**
11:11	11:18	11:25	11:31	11:41	11:51	**12:01**	**12:17**	**12:35**	**12:46**	**12:52**	**12:55**	**1:01**
11:31	11:38	11:45	11:51	**12:01**	**12:11**	**12:21**	**12:37**	**12:55**	**1:06**	**1:12**	**1:15**	**1:21**
11:51	11:58	**12:05**	**12:11**	**12:21**	**12:31**	**12:41**	**12:57**	**1:15**	**1:26**	**1:32**	**1:35**	**1:41**
12:11	**12:18**	**12:25**	**12:31**	**12:41**	**12:51**	**1:01**	**1:17**	**1:35**	**1:46**	**1:52**	**1:55**	**2:01**
12:31	**12:38**	**12:45**	**12:51**	**1:01**	**1:11**	**1:21**	**1:37**	**1:55**	**2:06**	**2:12**	**2:15**	**2:21**
12:51	**12:58**	**1:05**	**1:11**	**1:21**	**1:31**	**1:41**	**1:57**	**2:15**	**2:26**	**2:32**	**2:35**	**2:41**
1:11	**1:18**	**1:25**	**1:31**	**1:41**	**1:51**	**2:01**	**2:17**	**2:36**	**2:48**	**2:54**	**2:57**	**3:03**
1:31	**1:38**	**1:45**	**1:51**	**2:01**	**2:11**	**2:21**	**2:37**	**2:57**	**3:09**	**3:15**	**3:18**	**3:24**
1:50	**1:57**	**2:04**	**2:10**	**2:20**	**2:30**	**2:41**	**2:57**	**3:17**	**3:29**	**3:35**	**3:38**	**3:44**
2:07	**2:14**	**2:21**	**2:27**	**2:38**	**2:50**	**3:01**	**3:17**	**3:37**	**3:49**	**3:55**	**3:58**	**4:04**
2:24	**2:32**	**2:41**	**2:47**	**2:58**	**3:10**	**3:21**	**3:37**	**3:57**	**4:09**	**4:15**	**4:18**	**4:24**
2:44	**2:52**	**3:01**	**3:07**	**3:18**	**3:30**	**3:41**	**3:57**	**4:17**	**4:29**	**4:35**	**4:38**	**4:44**
3:04	**3:12**	**3:21**	**3:27**	**3:38**	**3:50**	**4:01**	**4:17**	**4:37**	**4:49**	**4:55**	**4:58**	**5:04**
3:24	**3:32**	**3:41**	**3:47**	**3:58**	**4:10**	**4:21**	**4:37**	**4:57**	**5:09**	**5:15**	**5:18**	**5:24**
3:44	**3:52**	**4:01**	**4:07**	**4:18**	**4:30**	**4:41**	**4:57**	**5:17**	**5:29**	**5:35**	**5:38**	**5:44**
4:04	**4:12**	**4:21**	**4:27**	**4:38**	**4:50**	**5:01**	**5:17**	**5:37**	**5:49**	**5:55**	**5:58**	**6:04**
4:24	**4:32**	**4:41**	**4:47**	**4:58**	**5:10**	**5:21**	**5:37**	**5:57**	**6:09**	**6:15**	**6:18**	**6:24**
4:44	**4:52**	**5:01**	**5:07**	**5:18**	**5:30**	**5:41**	**5:57**	**6:17**	**6:29**	**6:34**	**6:37**	**6:43**
5:04	**5:12**	**5:21**	**5:27**	**5:38**	**5:50**	**6:01**	**6:17**	**6:36**	**6:46**	**6:51**	**6:54**	**7:00**
5:25	**5:33**	**5:42**	**5:48**	**5:59**	**6:11**	**6:22**	**6:37**	**6:53**	**7:03**	**7:08**	**7:11**	**7:17**
5:49	**5:57**	**6:06**	**6:12**	**6:23**	**6:34**	**6:43**	**6:57**	**7:13**	**7:23**	**7:28**	**7:31**	**7:37**
6:13	**6:21**	**6:30**	**6:35**	**6:44**	**6:54**	**7:03**	**7:17**	**7:33**	**7:43**	**7:48**	**7:51**	**7:57**
6:46	**6:53**	**7:00**	**7:05**	**7:14**	**7:24**	**7:33**	**7:47**	**8:03**	**8:13**	**8:18**	**8:21**	**8:27**
7:16	**7:23**	**7:30**	**7:35**	**7:44**	**7:54**	**8:03**	**8:17**	**8:33**	**8:43**	**8:48**	**8:51**	**8:57**
7:46	**7:53**	**8:00**	**8:05**	**8:14**	**8:24**	**8:33**	**8:47**	**9:03**	**9:13**	**9:18**	**9:21**	**9:27**

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Monday-Friday Northbound
Lunes a Viernes, Rumbo al norte

CHANDLER FASHION CTR	RURAL AT CHANDLER BLVD	RURAL AT RAY	ELLIOT AT RURAL	RURAL AT SOUTHERN	TEMPE TRANS CTR	SCOTTSDALE RD AT MCDOWELL	SCOTTSDALE RD AT INDIAN SCHOOL	SCOTTSDALE RD AT LINCOLN	SCOTTSDALE RD AT SHEA	SCOTTSDALE RD AT THUNDERBIRD	SCOTTSDALE RD AT FLW	SCOTTSDALE HEALTHCARE THOMPSON PEAK
9:21	**9:27**	**9:30**	**9:36**	**9:46**	**10:00**	**10:16**	**10:25**	**10:34**	**10:42**	**10:47**	**10:52**	**10:59**
9:51	**9:57**	**10:00**	**10:06**	**10:16**	**10:30**	**10:46**	**10:55**	**11:04**	**11:12**	**11:17**	**11:22**	**11:29**
10:21	**10:27**	**10:30**	**10:36**	**10:46**	**11:00**							
		11:00	**11:06**	**11:16**	**11:30**							
		11:30	**11:36**	**11:46**	12:00							
		12:00	12:06	12:16	12:30							

Monday-Friday Southbound
Lunes a Viernes, Rumbo al sur

SCOTTSDALE HEALTHCARE THOMPSON PEAK	SCOTTSDALE RD AT FLW	SCOTTSDALE RD AT THUNDERBIRD	SCOTTSDALE RD AT SHEA	SCOTTSDALE RD AT LINCOLN	SCOTTSDALE RD AT INDIAN SCHOOL	SCOTTSDALE RD AT MCDOWELL	TEMPE TRANS CTR	RURAL AT SOUTHERN	ELLIOT AT RURAL	RURAL AT RAY	RURAL AT CHANDLER BLVD	CHANDLER FASHION CTR
8:16	**8:23**	**8:30**	**8:35**	**8:44**	**8:54**	**9:03**	**9:17**	**9:33**	**9:43**	**9:48**	**9:51**	**9:57**
8:46	**8:53**	**9:00**	**9:05**	**9:14**	**9:24**	**9:33**	**9:47**	**10:03**	**10:13**	**10:18**		
9:16	**9:23**	**9:30**	**9:35**	**9:44**	**9:54**	**10:03**	**10:17**	**10:33**	**10:43**	**10:48**		
9:46	**9:53**	**10:00**	**10:05**	**10:14**	**10:24**	**10:33**	**10:47**	**11:03**	**11:13**	**11:18**		
10:16	**10:23**	**10:30**	**10:35**	**10:44**	**10:54**	**11:03**	**11:17**	**11:33**	**11:43**	**11:48**		
10:46	**10:53**	**11:00**	**11:05**	**11:14**	**11:24**	**11:33**	**11:47**	12:03	12:13	12:18		
							12:17	12:33	12:43	12:48		

Saturday Northbound
Sábado, Rumbo al norte

CHANDLER FASHION CTR	RURAL AT CHANDLER BLVD	RURAL AT RAY	ELLIOT AT RURAL	RURAL AT SOUTHERN	TEMPE TRANS CTR	SCOTTSDALE RD AT MCDOWELL	SCOTTSDALE RD AT INDIAN SCHOOL	SCOTTSDALE RD AT LINCOLN	SCOTTSDALE RD AT SHEA	SCOTTSDALE RD AT THUNDERBIRD	SCOTTSDALE RD AT FLW	SCOTTSDALE HEALTHCARE THOMPSON PEAK
		5:01	5:07	5:18	5:30	5:42	5:51	5:57	6:03	6:09	6:15	6:22
		5:31	5:37	5:48	6:00	6:12	6:21	6:27	6:33	6:39	6:45	6:52
		6:01	6:07	6:18	6:30	6:42	6:51	6:57	7:03	7:09	7:15	7:22
		6:31	6:37	6:48	7:00	7:12	7:21	7:27	7:33	7:39	7:45	7:52
		7:01	7:07	7:18	7:30	7:42	7:51	7:57	8:03	8:09	8:15	8:22
		7:31	7:37	7:48	8:00	8:12	8:21	8:27	8:33	8:39	8:45	8:52
		8:01	8:07	8:18	8:30	8:42	8:51	8:57	9:05	9:11	9:17	9:26
8:22	8:28	8:31	8:37	8:48	9:00	9:18	9:29	9:40	9:49	9:55	10:01	10:10
8:47	8:53	8:56	9:02	9:14	9:30	9:48	9:59	10:10	10:19	10:25	10:31	10:40
9:17	9:23	9:26	9:32	9:44	10:00	10:18	10:29	10:40	10:49	10:55	11:01	11:10
9:47	9:53	9:56	10:02	10:14	10:30	10:48	10:59	11:10	11:19	11:25	11:31	11:40
10:17	10:23	10:26	10:32	10:44	11:00	11:18	11:29	11:40	11:49	11:55	**12:01**	**12:10**
10:47	10:53	10:56	11:02	11:14	11:30	11:48	11:59	**12:10**	**12:19**	**12:25**	**12:31**	**12:40**
11:17	11:23	11:26	11:32	11:44	**12:00**	**12:18**	**12:29**	**12:40**	**12:49**	**12:55**	**1:01**	**1:10**
11:47	11:53	11:56	**12:02**	**12:14**	**12:30**	**12:48**	**12:59**	**1:10**	**1:19**	**1:25**	**1:31**	**1:40**
12:17	**12:23**	**12:26**	**12:32**	**12:44**	**1:00**	**1:18**	**1:29**	**1:40**	**1:49**	**1:55**	**2:01**	**2:10**
12:47	**12:53**	**12:56**	**1:02**	**1:14**	**1:30**	**1:48**	**1:59**	**2:10**	**2:19**	**2:25**	**2:31**	**2:40**
1:17	**1:23**	**1:26**	**1:32**	**1:44**	**2:00**	**2:18**	**2:29**	**2:40**	**2:49**	**2:55**	**3:01**	**3:10**
1:47	**1:53**	**1:56**	**2:02**	**2:14**	**2:30**	**2:48**	**2:59**	**3:10**	**3:19**	**3:25**	**3:31**	**3:40**
2:17	**2:23**	**2:26**	**2:32**	**2:44**	**3:00**	**3:18**	**3:29**	**3:40**	**3:49**	**3:55**	**4:01**	**4:10**
2:47	**2:53**	**2:56**	**3:02**	**3:14**	**3:30**	**3:48**	**3:59**	**4:10**	**4:19**	**4:25**	**4:31**	**4:40**
3:17	**3:23**	**3:26**	**3:32**	**3:44**	**4:00**	**4:18**	**4:29**	**4:40**	**4:49**	**4:55**	**5:01**	**5:10**
3:47	**3:53**	**3:56**	**4:02**	**4:14**	**4:30**	**4:48**	**4:59**	**5:10**	**5:19**	**5:25**	**5:31**	**5:40**
4:17	**4:23**	**4:26**	**4:32**	**4:44**	**5:00**	**5:18**	**5:29**	**5:40**	**5:49**	**5:55**	**6:01**	**6:10**
4:47	**4:53**	**4:56**	**5:02**	**5:14**	**5:30**	**5:48**	**5:59**	**6:10**	**6:19**	**6:25**	**6:31**	**6:40**
5:17	**5:23**	**5:26**	**5:32**	**5:44**	**6:00**	**6:18**	**6:29**	**6:40**	**6:49**	**6:55**	**7:01**	**7:10**
5:47	**5:53**	**5:56**	**6:02**	**6:14**	**6:30**	**6:48**	**6:59**	**7:10**	**7:19**	**7:25**	**7:31**	**7:38**

Saturday Southbound
Sábado, Rumbo al sur

SCOTTSDALE HEALTHCARE THOMPSON PEAK	SCOTTSDALE RD AT FLW	SCOTTSDALE RD AT THUNDERBIRD	SCOTTSDALE RD AT SHEA	SCOTTSDALE RD AT LINCOLN	SCOTTSDALE RD AT INDIAN SCHOOL	SCOTTSDALE RD AT MCDOWELL	TEMPE TRANS CTR	RURAL AT SOUTHERN	ELLIOT AT RURAL	RURAL AT RAY	RURAL AT CHANDLER BLVD	CHANDLER FASHION CTR
							5:07	5:22	5:33	5:38		
							5:37	5:52	6:03	6:08		
5:06	5:13	5:19	5:25	5:35	5:44	5:53	6:07	6:22	6:33	6:38		
5:36	5:43	5:49	5:55	6:05	6:14	6:23	6:37	6:52	7:03	7:08		
6:06	6:13	6:19	6:25	6:35	6:44	6:53	7:07	7:22	7:33	7:38	7:41	7:47
6:36	6:43	6:49	6:55	7:05	7:14	7:23	7:37	7:54	8:05	8:10	8:13	8:19
7:01	7:08	7:14	7:20	7:30	7:41	7:52	8:07	8:24	8:35	8:40	8:43	8:49
7:28	7:35	7:43	7:49	8:00	8:11	8:22	8:37	8:54	9:05	9:10	9:13	9:19
7:58	8:05	8:13	8:19	8:30	8:41	8:52	9:07	9:24	9:35	9:40	9:43	9:49
8:28	8:35	8:43	8:49	9:00	9:11	9:22	9:37	9:54	10:05	10:10	10:13	10:19
8:58	9:05	9:13	9:19	9:30	9:41	9:52	10:07	10:24	10:35	10:40	10:43	10:49
9:28	9:35	9:43	9:49	10:00	10:11	10:22	10:37	10:54	11:05	11:10	11:13	11:19
9:58	10:05	10:13	10:19	10:30	10:41	10:52	11:07	11:24	11:35	11:40	11:43	11:49
10:28	10:35	10:43	10:49	11:00	11:11	11:22	11:37	11:54	**12:05**	**12:10**	**12:13**	**12:19**
10:58	11:05	11:13	11:19	11:30	11:41	11:52	**12:07**	**12:24**	**12:35**	**12:40**	**12:43**	**12:49**
11:28	11:35	11:43	11:49	**12:00**	**12:11**	**12:22**	**12:37**	**12:54**	**1:05**	**1:10**	**1:13**	**1:19**
11:58	**12:05**	**12:13**	**12:19**	**12:30**	**12:41**	**12:52**	**1:07**	**1:24**	**1:35**	**1:40**	**1:43**	**1:49**
12:28	**12:35**	**12:43**	**12:49**	**1:00**	**1:11**	**1:22**	**1:37**	**1:54**	**2:05**	**2:10**	**2:13**	**2:19**
12:58	**1:05**	**1:13**	**1:19**	**1:30**	**1:41**	**1:52**	**2:07**	**2:24**	**2:35**	**2:40**	**2:43**	**2:49**
1:28	**1:35**	**1:43**	**1:49**	**2:00**	**2:11**	**2:22**	**2:37**	**2:54**	**3:05**	**3:10**	**3:13**	**3:19**
1:58	**2:05**	**2:13**	**2:19**	**2:30**	**2:41**	**2:52**	**3:07**	**3:24**	**3:35**	**3:40**	**3:43**	**3:49**
2:28	**2:35**	**2:43**	**2:49**	**3:00**	**3:11**	**3:22**	**3:37**	**3:54**	**4:05**	**4:10**	**4:13**	**4:19**
2:58	**3:05**	**3:13**	**3:19**	**3:30**	**3:41**	**3:52**	**4:07**	**4:24**	**4:35**	**4:40**	**4:43**	**4:49**
3:28	**3:35**	**3:43**	**3:49**	**4:00**	**4:11**	**4:22**	**4:37**	**4:54**	**5:05**	**5:10**	**5:13**	**5:19**
3:58	**4:05**	**4:13**	**4:19**	**4:30**	**4:41**	**4:52**	**5:07**	**5:24**	**5:35**	**5:40**	**5:43**	**5:49**
4:28	**4:35**	**4:43**	**4:49**	**5:00**	**5:11**	**5:22**	**5:37**	**5:54**	**6:05**	**6:10**	**6:13**	**6:19**
4:58	**5:05**	**5:13**	**5:19**	**5:30**	**5:41**	**5:52**	**6:07**	**6:24**	**6:35**	**6:40**	**6:43**	**6:49**

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Light type = AM. **Bold type = PM.** / *Texto normal = la mañana.* ***Texto remarcado = la tarde.***

Effective/*Validez:* **July 22, 2013**

Route 72 — Scottsdale/Rural

(continued / *continua*)

Saturday Northbound
Sábado, Rumbo al norte

CHANDLER FASHION CTR	RURAL AT CHANDLER BLVD	RURAL AT RAY	ELLIOT AT RURAL	RURAL AT SOUTHERN	TEMPE TRANS CTR	SCOTTSDALE RD AT MCDOWELL	SCOTTSDALE RD AT INDIAN SCHOOL	SCOTTSDALE RD AT LINCOLN	SCOTTSDALE RD AT SHEA	SCOTTSDALE RD AT THUNDERBIRD	SCOTTSDALE RD AT FLW	SCOTTSDALE HEALTHCARE THOMPSON PEAK
6:17	6:23	6:26	6:32	6:44	7:00	7:18	7:29	7:38	7:45	7:51	7:57	8:04
6:47	6:53	6:56	7:02	7:14	7:30	7:48	7:57	8:06	8:13	8:19	8:25	8:32
7:20	7:26	7:29	7:35	7:46	8:00	8:18	8:27	8:36	8:43	8:49	8:55	9:02
7:50	7:56	7:59	8:05	8:16	8:30	8:48	8:57	9:06	9:13	9:19	9:25	9:32
8:20	8:26	8:29	8:35	8:46	9:00	9:18	9:27	9:36	9:43	9:49	9:55	10:02
8:50	8:56	8:59	9:05	9:16	9:30	9:48	9:57	10:06	10:13	10:19	10:25	10:32
9:20	9:26	9:29	9:35	9:46	10:00	10:18	10:27	10:36	10:43	10:49	10:55	11:02
9:50	9:56	9:59	10:05	10:16	10:30	10:48	10:57	11:06	11:13	11:19	11:25	11:32
10:20	10:26	10:29	10:35	10:46	11:00							
		10:59	11:05	11:16	11:30							
		11:29	11:35	11:46	12:00							
		11:59	12:05	12:16	12:30							

Saturday Southbound
Sábado, Rumbo al sur

SCOTTSDALE HEALTHCARE THOMPSON PEAK	SCOTTSDALE RD AT FLW	SCOTTSDALE RD AT THUNDERBIRD	SCOTTSDALE RD AT SHEA	SCOTTSDALE RD AT LINCOLN	SCOTTSDALE RD AT INDIAN SCHOOL	SCOTTSDALE RD AT MCDOWELL	TEMPE TRANS CTR	RURAL AT SOUTHERN	ELLIOT AT RURAL	RURAL AT RAY	RURAL AT CHANDLER BLVD	CHANDLER FASHION CTR
5:28	5:35	5:43	5:49	6:00	6:11	6:22	6:37	6:54	7:05	7:10	7:13	7:19
5:58	6:05	6:13	6:19	6:30	6:41	6:52	7:07	7:24	7:35	7:40	7:43	7:49
6:28	6:35	6:43	6:49	7:00	7:11	7:22	7:37	7:52	8:03	8:08	8:11	8:17
6:59	7:06	7:14	7:20	7:31	7:42	7:53	8:07	8:22	8:33	8:38	8:41	8:47
7:29	7:36	7:44	7:50	8:01	8:12	8:23	8:37	8:52	9:03	9:08	9:11	9:17
7:59	8:06	8:14	8:20	8:31	8:42	8:53	9:07	9:22	9:33	9:38	9:41	9:47
8:29	8:36	8:44	8:50	9:01	9:12	9:23	9:37	9:52	10:03	10:08		
8:59	9:06	9:14	9:20	9:31	9:42	9:53	10:07	10:22	10:33	10:38		
9:29	9:36	9:44	9:50	10:01	10:12	10:23	10:37	10:52	11:03	11:08		
9:59	10:06	10:14	10:20	10:31	10:42	10:53	11:07	11:22	11:33	11:38		
10:29	10:36	10:44	10:50	11:01	11:12	11:23	11:37	11:52	12:03	12:08		
10:59	11:06	11:14	11:20	11:31	11:42	11:53	12:07	12:22	12:33	12:48		

Sunday Northbound
Domingo, Rumbo al norte

CHANDLER FASHION CTR	RURAL AT CHANDLER BLVD	RURAL AT RAY	ELLIOT AT RURAL	RURAL AT SOUTHERN	TEMPE TRANS CTR	SCOTTSDALE RD AT MCDOWELL	SCOTTSDALE RD AT INDIAN SCHOOL	SCOTTSDALE RD AT LINCOLN	SCOTTSDALE RD AT SHEA	SCOTTSDALE RD AT THUNDERBIRD	SCOTTSDALE RD AT FLW	SCOTTSDALE HEALTHCARE THOMPSON PEAK
		5:01	5:07	5:18	5:30	5:42	5:51	5:57	6:03	6:09	6:15	6:22
		5:31	5:37	5:48	6:00							
		6:01	6:07	6:18	6:30	6:42	6:51	6:57	7:03	7:09	7:15	7:22
		6:31	6:37	6:48	7:00							
		7:01	7:07	7:18	7:30	7:42	7:51	7:57	8:03	8:09	8:15	8:22
		7:31	7:37	7:48	8:00							
		8:01	8:07	8:18	8:30	8:42	8:51	8:57	9:05	9:11	9:17	9:26
8:22	8:28	8:31	8:37	8:48	9:00							
8:47	8:53	8:56	9:02	9:14	9:30	9:48	9:59	10:10	10:19	10:25	10:31	10:40
9:17	9:23	9:26	9:32	9:44	10:00							
9:47	9:53	9:56	10:02	10:14	10:30	10:48	10:59	11:10	11:19	11:25	11:31	11:40
10:17	10:23	10:26	10:32	10:44	11:00							
10:47	10:53	10:56	11:02	11:14	11:30	11:48	11:59	**12:10**	**12:19**	**12:25**	**12:31**	**12:40**
11:17	11:23	11:26	11:32	11:44	**12:00**							
11:47	11:53	11:56	**12:02**	**12:14**	**12:30**	**12:48**	**12:59**	**1:10**	**1:19**	**1:25**	**1:31**	**1:40**
12:17	**12:23**	**12:26**	**12:32**	**12:44**	**1:00**							
12:47	**12:53**	**12:56**	**1:02**	**1:14**	**1:30**	**1:48**	**1:59**	**2:10**	**2:19**	**2:25**	**2:31**	**2:40**
1:17	**1:23**	**1:26**	**1:32**	**1:44**	**2:00**							
1:47	**1:53**	**1:56**	**2:02**	**2:14**	**2:30**	**2:48**	**2:59**	**3:10**	**3:19**	**3:25**	**3:31**	**3:40**
2:17	**2:23**	**2:26**	**2:32**	**2:44**	**3:00**							
2:47	**2:53**	**2:56**	**3:02**	**3:14**	**3:30**	**3:48**	**3:59**	**4:10**	**4:19**	**4:25**	**4:31**	**4:40**

Sunday Southbound
Domingo, Rumbo al sur

SCOTTSDALE HEALTHCARE THOMPSON PEAK	SCOTTSDALE RD AT FLW	SCOTTSDALE RD AT THUNDERBIRD	SCOTTSDALE RD AT SHEA	SCOTTSDALE RD AT LINCOLN	SCOTTSDALE RD AT INDIAN SCHOOL	SCOTTSDALE RD AT MCDOWELL	TEMPE TRANS CTR	RURAL AT SOUTHERN	ELLIOT AT RURAL	RURAL AT RAY	RURAL AT CHANDLER BLVD	CHANDLER FASHION CTR
							5:07	5:22	5:33	5:38		
							5:37	5:52	6:03	6:08		
5:06	5:13	5:19	5:25	5:35	5:44	5:53	6:07	6:22	6:33	6:38		
							6:37	6:52	7:03	7:08		
6:06	6:13	6:19	6:25	6:35	6:44	6:53	7:07	7:22	7:33	7:38		
							7:37	7:55	8:03	8:08	8:11	8:17
7:06	7:13	7:19	7:25	7:35	7:44	7:53	8:07	8:22	8:33	8:38	8:41	8:47
							8:37	8:54	9:05	9:10	9:13	9:19
8:01	8:08	8:14	8:20	8:30	8:41	8:52	9:07	9:24	9:35	9:40	9:43	9:49
							9:37	9:54	10:05	10:10	10:13	10:19
8:58	9:05	9:13	9:19	9:30	9:41	9:52	10:07	10:24	10:35	10:40	10:43	10:49
							10:37	10:54	11:05	11:10	11:13	11:19
9:58	10:05	10:13	10:19	10:30	10:41	10:52	11:07	11:24	11:35	11:40	11:43	11:49
							11:37	11:54	**12:05**	**12:10**	**12:13**	**12:19**
10:58	11:05	11:13	11:19	11:30	11:41	11:52	**12:07**	**12:24**	**12:35**	**12:40**	**12:43**	**12:49**
							12:37	**12:54**	**1:05**	**1:10**	**1:13**	**1:19**
11:58	**12:05**	**12:13**	**12:19**	**12:30**	**12:41**	**12:52**	**1:07**	**1:24**	**1:35**	**1:40**	**1:43**	**1:49**
							1:37	**1:54**	**2:05**	**2:10**	**2:13**	**2:19**
12:58	**1:05**	**1:13**	**1:19**	**1:30**	**1:41**	**1:52**	**2:07**	**2:24**	**2:35**	**2:40**	**2:43**	**2:49**
							2:37	**2:54**	**3:05**	**3:10**	**3:13**	**3:19**
1:58	**2:05**	**2:13**	**2:19**	**2:30**	**2:41**	**2:52**	**3:07**	**3:24**	**3:35**	**3:40**	**3:43**	**3:49**

Continued on next page / *Continua en la página siguiente*

(continued / continua)

Sunday Northbound
Domingo, Rumbo al norte

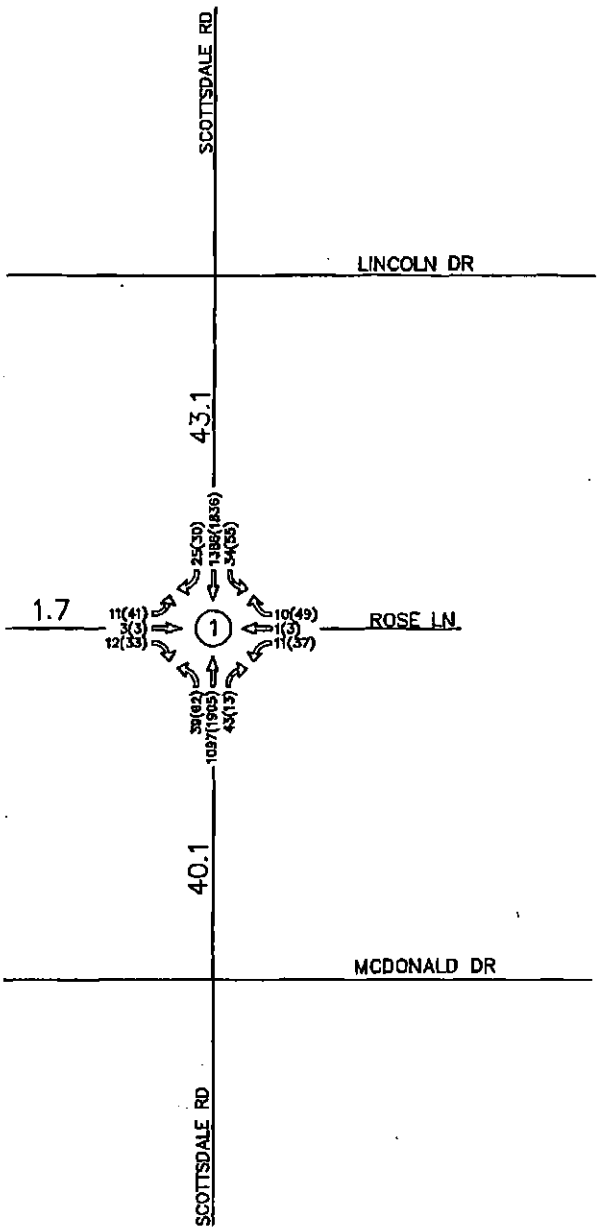
CHANDLER FASHION CTR	RURAL AT CHANDLER BLVD	RURAL AT RAY	ELLIOT AT RURAL	RURAL AT SOUTHERN	TEMPE TRANS CTR	SCOTTSDALE RD AT MCDOWELL	SCOTTSDALE RD AT INDIAN SCHOOL	SCOTTSDALE RD AT LINCOLN	SCOTTSDALE RD AT SHEA	SCOTTSDALE RD AT THUNDERBIRD	SCOTTSDALE RD AT FLW	SCOTTSDALE HEALTHCARE THOMPSON PEAK
3:17	3:23	3:26	3:32	3:44	4:00							
3:47	3:53	3:56	4:02	4:14	4:30	4:48	4:59	5:10	5:19	5:25	5:31	5:40
4:17	4:23	4:26	4:32	4:44	5:00							
4:47	4:53	4:56	5:02	5:14	5:30	5:48	5:59	6:10	6:19	6:25	6:31	6:40
5:17	5:23	5:26	5:32	5:44	6:00							
5:47	5:53	5:56	6:02	6:14	6:30	6:48	6:59	7:10	7:19	7:25	7:31	7:38
6:17	6:23	6:26	6:32	6:44	7:00							
6:47	6:53	6:56	7:02	7:14	7:30	7:48	7:57	8:06	8:13	8:19	8:25	8:32
7:20	7:26	7:29	7:35	7:46	8:00							
		7:59	8:05	8:16	8:30	8:48	8:57	9:06	9:13	9:19	9:25	9:32
		8:29	8:35	8:46	9:00							
		8:59	9:05	9:16	9:30	9:48	9:57	10:06	10:13	10:19	10:25	10:32
		9:29	9:35	9:46	10:00							
		9:59	10:05	10:16	10:30							

Sunday Southbound
Domingo, Rumbo al sur

SCOTTSDALE HEALTHCARE THOMPSON PEAK	SCOTTSDALE RD AT FLW	SCOTTSDALE RD AT THUNDERBIRD	SCOTTSDALE RD AT SHEA	SCOTTSDALE RD AT LINCOLN	SCOTTSDALE RD AT INDIAN SCHOOL	SCOTTSDALE RD AT MCDOWELL	TEMPE TRANS CTR	RURAL AT SOUTHERN	ELLIOT AT RURAL	RURAL AT RAY	RURAL AT CHANDLER BLVD	CHANDLER FASHION CTR
							3:37	3:54	4:05	4:10	4:13	4:19
2:58	3:05	3:13	3:19	3:30	3:41	3:52	4:07	4:24	4:35	4:40	4:43	4:49
							4:37	4:54	5:05	5:10	5:13	5:19
3:58	4:05	4:13	4:19	4:30	4:41	4:52	5:07	5:24	5:35	5:40	5:43	5:49
							5:37	5:54	6:05	6:10	6:13	6:19
4:58	5:05	5:13	5:19	5:30	5:41	5:52	6:07	6:24	6:35	6:40	6:43	6:49
							6:37	6:54	7:05	7:10		
5:58	6:05	6:13	6:19	6:30	6:41	6:52	7:07	7:24	7:35	7:40		
							7:37	7:52	8:03	8:08		
6:59	7:06	7:14	7:20	7:31	7:42	7:53	8:07	8:22	8:33	8:38		
							8:37	8:52	9:03	9:08		
7:59	8:06	8:14	8:20	8:31	8:42	8:53	9:07	9:22	9:33	9:38		
							9:37	9:52	10:03	10:08		
8:59	9:06	9:14	9:20	9:31	9:42	9:53	10:07	10:22	10:33	10:38		

Appendix B

Traffic Count Data



LEGEND:

XX (XX) = AM (PM) EXISTING TRAFFIC VOLUMES
XX.X = AVERAGE DAILY TRAFFIC (ADT) IN THOUSANDS

NORTH
NOT TO SCALE

DAVID EVANS AND ASSOCIATES INC.
4600 E. Washington Street
Phoenix, AZ 85034
Phone: 602.678.6155

BORGATA DEVELOPMENT
CITY OF SCOTTSDALE, AZ

TRAFFIC IMPACT AND MITIGATION ANALYSIS (TIMA)
PROJECT NO. AVH000000001

FIGURE 2

EXISTING AM(PM) PEAK HOUR TRAFFIC VOLUMES

Appendix C

Signal Timing Information

SCOTTSDALE RD. & ROSE LN.

COORDINATOR PATTERNS

CLEARANCES

	PH1	2	3	4	5	6	7	8
FDW	10	0	21	0	0	0	0	0
YELLOW	4.7	3.0	3.0	0.0	0.0	0.0	0.0	0.0
ALL RED	1.3	1.0	3.0	0.0	0.0	0.0	0.0	0.0

SYSTEM # 79

SECTION # 722

MORNING | EVENING | N/S EX | MID-DAY | MIDNIGHT | E/W EX

CLEARANCE | BASIC TIME | SEQUENCE | HISTORY

MM-3-3 MORNING SPLIT PATTERNS

TIMING PLAN # 1

SEQUENCE # 1

ACTION PLAN # 1

MOVEMENTS NST NSL EWT

SEQUENCE

R1: 1 ↕ | 2 ↰↳ | 3 ↔

R2

E/W: WALK & GREEN; FDW & GREEN; GREEN w/o WALK; LEFT

N/S

MM-3-2 AVAILABLE COORDINATOR PATTERN #s

PROGRESSION VALUES

HYPERLINKS TO MORNING TIME-SPACE DIAGRAMS

PLAN # 1

DATE EFFECTIVE 11/20/2006

OPERATIVE TIMES 0630-0900

	RING 1				RING 2				TARGET
PHASE	1	2	3	4	5	6	7	8	
SPLIT	90	12	18						120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	84	8	12	0	0	0	0	0	RING 1
									RING 2

120

AVAILABLE COORDINATOR PATTERN #s: 1 1, 1 2, 1 3, 1 4, 1 5, 1 6

PLAN # 2

DATE EFFECTIVE 3/30/2009

OPERATIVE TIMES

	RING 1				RING 2				TARGET
PHASE	1	2	3	4	5	6	7	8	
SPLIT	78	21	21						120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	72	17	15	0	0	0	0	0	RING 1
									RING 2

120

AVAILABLE COORDINATOR PATTERN #s: 2 1, 2 2, 2 3, 2 4, 2 5, 2 6

PLAN # 3

DATE EFFECTIVE 3/30/2009

OPERATIVE TIMES

	RING 1				RING 2				TARGET
PHASE	1	2	3	4	5	6	7	8	
SPLIT	73	14	33						120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	67	10	27	0	0	0	0	0	RING 1
									RING 2

120

AVAILABLE COORDINATOR PATTERN #s: 3 1, 3 2, 3 3, 3 4, 3 5, 3 6

DIR CODE	COORD DIR	B.O.G. OFFSET
1	NB	65
2	SB	70
3	NS	5
4	EB	100
5	WB	100
6	EW	100

SCOTTSDALE RD. & ROSE LN.

COORDINATOR PATTERNS

MORNING | EVENING | N/S EX
MID-DAY | MIDNIGHT | E/W EX
CLEARANCE | BASIC TIME | SEQUENCE | HISTORY

CLEARANCES

	PH1	2	3	4	5	6	7	8
FDW	10	0	21	0	0	0	0	0
YELLOW	4.7	3.0	3.0	0.0	0.0	0.0	0.0	0.0
ALL RED	1.3	1.0	3.0	0.0	0.0	0.0	0.0	0.0

SYSTEM # 79

SECTION # 722

MM-3-3 EVENING SPLIT PATTERNS

TIMING PLAN 1
SEQUENCE 1
ACTION PLAN
MOVEMENTS NST NSL EWT

SEQUENCE: R1: 1 ↕ | 2 ↰↳ | 3 ↔ ; R2

E/W: WALK & GREEN; FDW & GREEN; GREEN w/o WALK; LEFT
N/S

MM-3-2 AVAILABLE COORDINATOR PATTERN #s

PROGRESSION VALUES

HYPERLINKS TO EVENING TIME-SPACE DIAGRAMS

PLAN # 7

DATE EFFECTIVE 11/20/2006
OPERATIVE TIMES 1530-1830

	RING 1				RING 2				TARGET
PHASE	1	2	3	4	5	6	7	8	
SPLIT	84	12	24						120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	78	8	18	0	0	0	0	0	RING 1
									RING 2

120

AVAILABLE COORDINATOR PATTERN #s: 7 1, 7 2, 7 3, 7 4, 7 5, 7 6

PLAN # 8

DATE EFFECTIVE
OPERATIVE TIMES

	RING 1				RING 2				TARGET
PHASE	1	2	3	4	5	6	7	8	
SPLIT	78	21	21						120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	72	17	15	0	0	0	0	0	RING 1
									RING 2

120

AVAILABLE COORDINATOR PATTERN #s: 8 1, 8 2, 8 3, 8 4, 8 5, 8 6

PLAN # 9

DATE EFFECTIVE
OPERATIVE TIMES

	RING 1				RING 2				TARGET
PHASE	1	2	3	4	5	6	7	8	
SPLIT	73	14	33						120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	67	10	27	0	0	0	0	0	RING 1
									RING 2

120

AVAILABLE COORDINATOR PATTERN #s: 9 1, 9 2, 9 3, 9 4, 9 5, 9 6

DIR CODE	COORD DIR	B.O.G. OFFSET
1	NB	65
2	SB	70
3	NS	5
4	EB	100
5	WB	100
6	EW	100

Appendix D

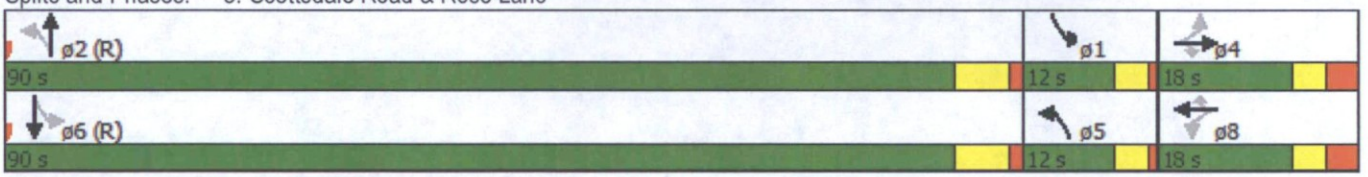
Existing Capacity Analysis

3: Scottsdale Road & Rose Lane

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	11	3	12	11	1	10	39	1097	34	1386
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	8.0	84.0	8.0	84.0
Minimum Split (s)	18.0	18.0	18.0	18.0	18.0	18.0	12.0	90.0	12.0	90.0
Total Split (s)	18.0	18.0	18.0	18.0	18.0	18.0	12.0	90.0	12.0	90.0
Total Split (%)	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	10.0%	75.0%	10.0%	75.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag							Lag	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 65 (54%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane



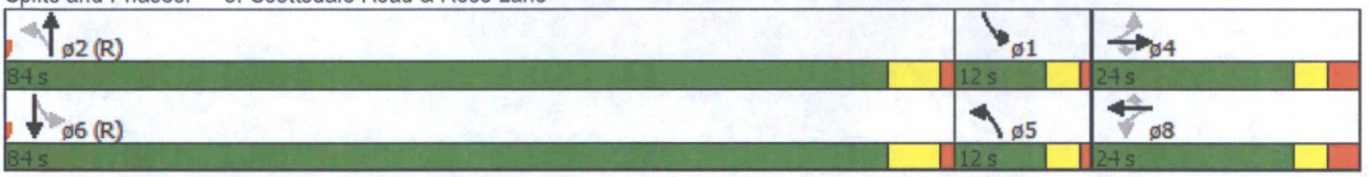
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	11	3	12	11	1	10	39	1097	43	34	1386	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	0	1	1	0	1	1	1	3	0	1	3	0
Cap, veh/h	56	8	133	60	3	133	356	3876	153	435	3971	72
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.05	0.73	0.73	0.05	0.73	0.73
Sat Flow, veh/h	0	96	1583	0	32	1583	1774	5341	210	1774	5471	99
Grp Volume(v), veh/h	15	0	13	13	0	11	43	850	417	38	1049	519
Grp Sat Flow(s),veh/h/ln	96	0	1583	32	0	1583	1774	1863	1826	1774	1863	1845
Q Serve(g_s), s	0.0	0.0	0.9	0.0	0.0	0.7	0.0	9.4	9.4	0.0	12.4	12.4
Cycle Q Clear(g_c), s	9.7	0.0	0.9	9.7	0.0	0.7	0.0	9.4	9.4	0.0	12.4	12.4
Prop In Lane	0.80		1.00	0.92		1.00	1.00		0.12	1.00		0.05
Lane Grp Cap(c), veh/h	64	0	133	62	0	133	356	2704	1325	435	2704	1339
V/C Ratio(X)	0.23	0.00	0.10	0.21	0.00	0.08	0.12	0.31	0.31	0.09	0.39	0.39
Avail Cap(c_a), veh/h	93	0	164	90	0	164	387	2704	1325	466	2704	1339
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	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	0.0	48.9	55.9	0.0	48.9	7.3	5.6	5.6	5.8	6.1	6.1
Incr Delay (d2), s/veh	0.7	0.0	0.1	0.6	0.0	0.1	0.1	0.3	0.6	0.0	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 Back of Q (50%), veh/ln	0.4	0.0	0.4	0.4	0.0	0.3	0.4	3.5	3.6	0.3	4.8	4.9
Lane Grp Delay (d), s/veh	53.5	0.0	49.1	56.5	0.0	49.0	7.3	5.9	6.3	5.9	6.5	6.9
Lane Grp LOS	D		D	E		D	A	A	A	A	A	A
Approach Vol, veh/h		28			24			1310			1606	
Approach Delay, s/veh		51.4			53.0			6.1			6.6	
Approach LOS		D			D			A			A	
Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		15.7			15.7		10.0	90.0		10.0	90.0	
Change Period (Y+Rc), s		6.0			6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s		12.0			12.0		8.0	84.0		8.0	84.0	
Max Q Clear Time (g_c+I1), s		11.7			11.7		2.0	11.4		2.0	14.4	
Green Ext Time (p_c), s		0.0			0.0		0.0	1.2		0.0	1.6	
Intersection Summary												
HCM 2010 Ctrl Delay			7.2									
HCM 2010 LOS			A									
Notes												

3: Scottsdale Road & Rose Lane

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	41	3	33	37	3	49	62	1905	55	1836
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	18.0	18.0	18.0	18.0	18.0	18.0	8.0	78.0	8.0	78.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	12.0	84.0	12.0	84.0
Total Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	12.0	84.0	12.0	84.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	10.0%	70.0%	10.0%	70.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag							Lag	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 53 (44%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	41	3	33	37	3	49	62	1905	13	55	1836	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow veh/h/ln	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	0	1	1	0	1	1	1	3	0	1	3	0
Cap, veh/h	59	2	239	58	2	239	257	3629	24	250	3589	58
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.06	0.65	0.65	0.06	0.65	0.65
Sat Flow, veh/h	0	13	1583	0	15	1583	1774	5545	37	1774	5484	89
Grp Volume(v), veh/h	49	0	37	44	0	54	69	1422	709	61	1385	688
Grp Sat Flow(s),veh/h/ln	13	0	1583	15	0	1583	1774	1863	1856	1774	1863	1847
Q Serve(g_s), s	0.0	0.0	2.4	0.0	0.0	3.6	0.0	25.4	25.5	0.0	24.4	24.4
Cycle Q Clear(g_c), s	18.0	0.0	2.4	18.0	0.0	3.6	0.0	25.4	25.5	0.0	24.4	24.4
Prop In Lane	0.94		1.00	0.93		1.00	1.00		0.02	1.00		0.05
Lane Grp Cap(c), veh/h	61	0	239	61	0	239	257	2438	1215	250	2438	1209
V/C Ratio(X)	0.81	0.00	0.15	0.73	0.00	0.23	0.27	0.58	0.58	0.24	0.57	0.57
Avail Cap(c_a), veh/h	61	0	239	61	0	239	269	2438	1215	263	2438	1209
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	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.8	0.0	44.0	58.7	0.0	44.5	21.9	11.5	11.5	21.9	11.3	11.3
Incr Delay (d2), s/veh	51.0	0.0	0.1	31.1	0.0	0.2	0.2	1.0	2.1	0.2	1.0	1.9
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 Back of Q (50%), veh/ln	2.4	0.0	1.0	1.9	0.0	1.5	1.5	10.8	11.1	1.3	10.3	10.6
Lane Grp Delay (d), s/veh	109.9	0.0	44.1	89.7	0.0	44.6	22.1	12.5	13.6	22.1	12.3	13.3
Lane Grp LOS	F		D	F		D	C	B	B	C	B	B
Approach Vol, veh/h		86			98			2200			2134	
Approach Delay, s/veh		81.6			64.9			13.2			12.9	
Approach LOS		F			E			B			B	
Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		24.0			24.0		11.2	84.0		11.2	84.0	
Change Period (Y+Rc), s		6.0			6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s		18.0			18.0		8.0	78.0		8.0	78.0	
Max Q Clear Time (g_c+I1), s		20.0			20.0		2.0	27.5		2.0	26.4	
Green Ext Time (p_c), s		0.0			0.0		0.0	2.4		0.0	2.3	
Intersection Summary												
HCM 2010 Ctrl Delay			15.5									
HCM 2010 LOS			B									
Notes												

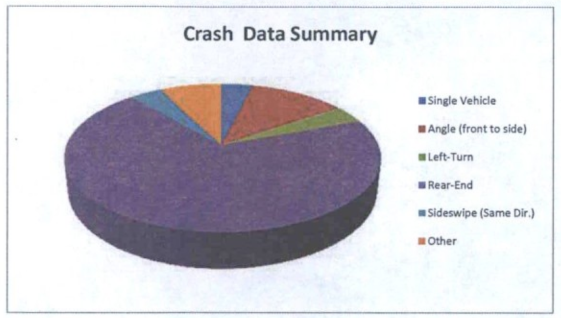
Appendix E

Accident Data

IncidentID	Microfilm	ADOTReceivedDate	Status	DataConv2008Flag	IncidentDate	IncidentDateTime	IncidentYear	IncidentMonth	IncidentDayOfWeek	IncidentHour	OfficerNcic	OfficerId	FileNumber	ExtendedNcic	DamageOverLimitFlag	PhotosTakenFlag	PhotographerName	PhotographerID	PhotographerAgency	InvestigatedAtSceneFlag	DateTimeInvestigated
2413910	19685169	5/25/2010 0:00	200	-1	5/12/2010 0:00	5/12/2010 12:22	2010	5	4	12	725	882	1011865	725	1	-1				-1	1/1/1900 0:00
2395300	19544900	3/25/2010 0:00	200	-1	3/4/2010 0:00	3/4/2010 19:23	2010	3	5	19	725	1204	1005748	725	1	-1				-1	1/1/1900 0:00
2377281	19433717	1/19/2010 0:00	200	-1	1/8/2010 0:00	1/8/2010 9:11	2010	1	6	9	725	1158	1000707	725	1	0				1	1/8/2010 9:00
2408087	19653265	5/13/2010 0:00	200	-1	4/17/2010 0:00	4/17/2010 22:34	2010	4	7	22	725	1339	1009630	725	1	-1				-1	1/1/1900 0:00
2478729	20123724	1/13/2011 0:00	210	-1	12/18/2010 0:00	12/18/2010 22:44	2010	12	7	22	725	1299	1030921	725	1	-1				-1	1/1/1900 0:00
2503642	20310986	5/3/2011 0:00	210	-1	3/14/2011 0:00	3/14/2011 3:17	2011	3	2	3	725	1233	1106173	725	1	-1				-1	1/1/1900 0:00
2552718	20625062	10/7/2011 0:00	200	-1	8/22/2011 0:00	8/22/2011 14:46	2011	8	2	14	725	1281	1119702	725	1	-1				-1	1/1/1900 0:00
2587392	20810626	1/31/2012 0:00	200	-1	8/26/2011 0:00	8/26/2011 14:30	2011	8	6	14	725	882	1120034	725	1	-1				-1	1/1/1900 0:00
2618759	20985596	5/11/2012 0:00	200	-1	4/3/2012 0:00	4/3/2012 15:47	2012	4	3	15	725	882	1207689	725	1	-1				-1	1/1/1900 0:00
2630687	21065766	6/29/2012 0:00	200	-1	2/27/2012 0:00	2/27/2012 18:16	2012	2	2	18	725	1266	1204736	725	1	-1				-1	1/1/1900 0:00
2635764		8/6/2012 0:00	200	-1	6/22/2012 0:00	6/22/2012 11:07	2012	6	6	11	725	772	1214150	725	1	-1				-1	1/1/1900 0:00
2638602		8/14/2012 0:00	200	-1	4/24/2012 0:00	4/24/2012 10:49	2012	4	3	10	725	601	1209466	725	1	-1				-1	1/1/1900 0:00
2638655		8/14/2012 0:00	200	-1	6/4/2012 0:00	6/4/2012 19:34	2012	6	2	19	725	1266	1212847	725	1	-1				-1	1/1/1900 0:00
2642679		8/30/2012 0:00	200	-1	7/24/2012 0:00	7/24/2012 13:51	2012	7	3	13	725	1229	1216500	725	0	-1				-1	1/1/1900 0:00
2655295	21100337	7/16/2012 0:00	200	-1	1/18/2012 0:00	1/18/2012 11:40	2012	1	4	11	725	601	1201376	725	1	-1				-1	1/1/1900 0:00
2692960		2/14/2013 0:00	200	-1	11/3/2012 0:00	11/3/2012 8:52	2012	11	7	8	725	1323	1224514	725	1	-1				-1	1/1/1900 0:00
2695628		2/22/2013 0:00	200	-1	12/4/2012 0:00	12/4/2012 16:52	2012	12	3	16	725	1266	1226984	725	0	-1				-1	1/1/1900 0:00
2396075	19551993	4/1/2010 0:00	200	-1	3/4/2010 0:00	3/4/2010 17:55	2010	3	5	17	725	831	1005746	725	1	-1				-1	1/1/1900 0:00
2405524	19634225	4/29/2010 0:00	200	-1	4/21/2010 0:00	4/21/2010 18:23	2010	4	4	18	725	1241	1009994	725	1	-1				1	1/1/1900 0:00
2420603	19741399	6/24/2010 0:00	200	-1	6/12/2010 0:00	6/12/2010 16:13	2010	6	7	16	725	1266	1014617	725	1	-1				-1	1/1/1900 0:00
2446136	19932643	10/19/2010 0:00	210	-1	9/24/2010 0:00	9/24/2010 15:57	2010	9	6	15	725	1346	1023585	725	1	-1				-1	1/1/1900 0:00
2486482	20186149	2/18/2011 0:00	210	-1	1/30/2011 0:00	1/30/2011 17:34	2011	1	1	17	725	1277	1102399	725	1	-1				-1	1/1/1900 0:00
2494340	20246818	3/21/2011 0:00	210	-1	2/10/2011 0:00	2/10/2011 16:52	2011	2	5	16	725	1366	1103339	725	1	-1				-1	1/1/1900 0:00
2522868	20432562	5/27/2011 0:00	210	-1	5/7/2011 0:00	5/7/2011 11:32	2011	5	7	11	725	1250	1110945	725	1	-1				-1	1/1/1900 0:00
2536781	20533093	8/1/2011 0:00	200	-1	7/15/2011 0:00	7/15/2011 18:01	2011	7	6	18	725	1230	1116605	725	1	-1				-1	1/1/1900 0:00
2612896	20955998	4/24/2012 0:00	200	-1	2/14/2012 0:00	2/14/2012 11:39	2012	2	3	11	725	601	1203617	725	1	-1				-1	1/1/1900 0:00

IncidentID	CollisionManner	LightCondition	FirstHarmfulEvent	FirstHarmfulLocation	TotalUnits	TotalMotorists	TotalNonMotorists	TotalInjuries	TotalFatalities	TotalMotoristsInjuries	TotalNonMotoristsInjuries	TotalMotoristsFatalities	TotalNonMotoristsFatalities	InjurySeverity	MedicalTransportFlag	FatalAccidentFlag	TowAwayFlag	NscReportable	SchoolBusRelatedFlag	WorkZoneRelatedFlag	WorkersPresentFlag	AlcoholInvolvementFlag	DrugInvolvementFlag	HazardousFlag	HitAndRunFlag	Onroad	CrossingFeature
2413910	4	1	16	1	3	3	0	0	0	0	0	0	0	1	-1	0	1	1	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2395300	4	4	16	1	2	2	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2377281	4	1	16	1	3	3	0	0	0	0	0	0	0	1	0	0	1	1	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2408087	4	4	16	1	3	7	0	2	0	2	0	0	0	4	1	0	1	1	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2478729	2	4	16	1	3	5	0	5	0	5	0	0	0	3	0	0	1	1	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2503642	1	4	33	3	1	1	0	0	0	0	0	0	0	1	-1	0	-1	1	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2552718	4	1	16	255	2	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2587392	4	1	16	255	2	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2618759	4	1	16	255	2	3	0	1	0	1	0	0	0	2	0	0	0	1	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2630687	6	3	16	255	2	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2635764	4	1	16	255	3	3	0	0	0	0	0	0	0	1	0	0	0	1	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2638602	4	1	16	255	3	4	0	0	0	0	0	0	0	1	0	0	0	1	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2638655	4	4	16	255	2	5	0	1	0	1	0	0	0	3	0	0	1	1	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2642679	4	1	16	255	2	2	0	0	0	0	0	0	0	1	0	0	0	2	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2655295	4	1	16	255	2	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2692960	4	1	16	255	2	4	0	0	0	0	0	0	0	1	0	0	0	1	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2695628	4	1	16	255	2	5	0	0	0	0	0	0	0	1	0	0	0	2	0	0	-1	Not Available	Not Available	0	0	Scottsdale Rd	Rose Ln
2396075	97	3	17	1	3	1	2	2	0	0	2	0	0	4	1	0	-1	1	0	0	-1	Not Available	Not Available	0	0	Rose Ln	Scottsdale Rd
2405524	2	3	16	1	2	3	0	0	0	0	0	0	0	1	0	0	0	1	0	0	-1	Not Available	Not Available	0	0	Rose Ln	Scottsdale Rd
2420603	4	1	16	1	2	3	0	1	0	1	0	0	0	2	-1	0	-1	1	0	0	-1	Not Available	Not Available	0	0	Rose Ln	Scottsdale Rd
2446136	4	1	16	1	2	2	0	0	0	0	0	0	0	1	-1	0	-1	1	0	0	-1	Not Available	Not Available	0	0	Rose Ln	Scottsdale Rd
2486482	2	1	16	1	2	4	0	0	0	0	0	0	0	1	0	0	1	1	0	0	-1	Not Available	Not Available	0	0	Rose Ln	Scottsdale Rd
2494340	3	1	16	1	2	2	0	1	0	1	0	0	0	3	1	0	1	1	0	0	-1	Not Available	Not Available	0	0	Rose Ln	Scottsdale Rd
2522868	97	1	16	1	2	2	0	0	0	0	0	0	0	1	-1	0	1	1	0	0	-1	Not Available	Not Available	0	0	Rose Ln	Scottsdale Rd
2536781	4	1	16	255	2	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	-1	Not Available	Not Available	0	0	Rose Ln	Scottsdale Rd
2612896	4	1	16	255	2	4	0	0	0	0	0	0	0	1	0	0	0	1	0	0	-1	Not Available	Not Available	0	0	Rose Ln	Scottsdale Rd

IncidentID	Offset	OffsetMeasuredFlag	OffsetUnit	MPNum	MPOffset	CityId	CountyId	StateId	StateCode	CountryCode	Latitude	Longitude	ValidLocationFlag	LocationToolVersion	HESIntersectionFlag	IntersectionFlag	IntersectionRouteID	IntersectionATISCode	TrafficWayType	IntersectionType	JunctionRelation	Weather	PropertyDamageOwnerCode	PropertyDamageDescCode	Crash Number
2413910	0.042	0	1	0	0	260	13	3	AZ	US	33.52839939	-111.9257655	1	Sep-10	-1	1	18777	07 ROSE LN	5	1	1	1	-1	-1	1
2395300	0	0	1	0	0	260	13	3	AZ	US	33.52779021	-111.9257861	1	Sep-10	1	1	18777	07 ROSE LN	5	0	0	1	-1	-1	2
2377281	0.011	0	1	0	0	260	13	3	AZ	US	33.52790571	-111.925697	1		1	1	18777	07 ROSE LN	5	1	2	1	-1	-1	3
2408087	0.0129	0	1	0	0	260	13	3	AZ	US	33.52797624	-111.9257789	1	Sep-10	1	1	18777	07 ROSE LN	5	0	0	1	-1	-1	4
2478729	0.0284	0	1	0	0	260	13	3	AZ	US	33.52820108	-111.9257718	1	Sep-10	1	1	18777	07 ROSE LN	5	1	12	2	-1	-1	5
2503642	0.0028	0	1	0	0	260	13	3	AZ	US	33.52783092	-111.9257836	1	Sep-10	1	1	18777	07 ROSE LN	5	0	0	1	-1	-1	6
2552718	0.0189	0	1	0	0	260	13	3	AZ	US	33.52806398	-111.9257761	1	Sep-10	1	1	18777	07 ROSE LN	5	0	0	1	-1	-1	7
2587392	-0.008	0	1	0	0	260	13	3	AZ	US	33.52767505	-111.9257898	1	Sep-10	1	1	18777	07 ROSE LN	5	1	11	1	-1	-1	8
2618759	0.0473	0	1	0	0	260	13	3	AZ	US	33.52847616	-111.925763	1	Sep-10	-1	0	18777	07 ROSE LN	5	99	0	1	-1	-1	9
2630687	0.0568	0	1	0	0	260	13	3	AZ	US	33.52861326	-111.9257587	1	Sep-10	-1	0	18777	07 ROSE LN	5	99	0	1	-1	-1	10
2635764	0.0284	0	1	0	0	260	13	3	AZ	US	33.52820108	-111.9257718	1	Sep-10	1	1	18777	07 ROSE LN	5	1	2	1	-1	-1	11
2638602	0.0623	0	1	0	0	260	13	3	AZ	US	33.52869278	-111.9257562	1	Sep-10	-1	0	18777	07 ROSE LN	5	99	0	1	-1	-1	12
2638655	0.0189	0	1	0	0	260	13	3	AZ	US	33.52806398	-111.9257761	1	Sep-10	1	1	18777	07 ROSE LN	5	1	2	1	-1	-1	13
2642679	-0.0076	0	1	0	0	260	13	3	AZ	US	33.52768054	-111.9257896	1	Sep-10	1	1	18777	07 ROSE LN	5	1	2	1	-1	-1	14
2655295	-0.0095	0	1	0	0	260	13	3	AZ	US	33.52765312	-111.9257905	1	Sep-10	1	1	18777	07 ROSE LN	5	0	0	1	-1	-1	15
2692960	0.0117	0	1	0	0	260	13	3	AZ	US	33.52795979	-111.9257795	1	Sep-11	1	1	18777	07 ROSE LN	4	1	2	1	-1	-1	16
2695628	0.0189	0	1	0	0	260	13	3	AZ	US	33.52806398	-111.9257761	1	Sep-10	1	1	18777	07 ROSE LN	5	1	2	1	-1	-1	17
2396075	0	0	1	0	0	260	13	3	AZ	US	33.52779021	-111.9257861	1	Sep-10	1	1	19149	07 SCOTTSDALE	5	1	1	1	-1	-1	18
2405524	0.0049	0	1	0	0	260	13	3	AZ	US	33.52778893	-111.9257012	1	Sep-10	1	1	19149	07 SCOTTSDALE	5	1	11	2	-1	-1	19
2420603	0	0	1	0	0	260	13	3	AZ	US	33.52779021	-111.9257861	1	Sep-10	1	1	19149	07 SCOTTSDALE	5	1	1	2	-1	-1	20
2446136	0.01	0	1	0	0	260	13	3	AZ	US	33.5277865	-111.9256129	1	Sep-10	1	1	19149	07 SCOTTSDALE	2	0	0	1	-1	-1	21
2486482	0	0	1	0	0	260	13	3	AZ	US	33.52779021	-111.9257861	1	Sep-10	1	1	19149	07 SCOTTSDALE	5	1	1	1	-1	-1	22
2494340	0	0	1	0	0	260	13	3	AZ	US	33.52779021	-111.9257861	1	Sep-10	1	1	19149	07 SCOTTSDALE	5	1	11	1	-1	-1	23
2522868	0	0	1	0	0	260	13	3	AZ	US	33.52779021	-111.9257861	1	Sep-10	1	1	19149	07 SCOTTSDALE	5	1	12	1	-1	-1	24
2536781	0	0	1	0	0	260	13	3	AZ	US	33.52779021	-111.9257861	1	Sep-10	1	1	19149	07 SCOTTSDALE	5	1	12	1	-1	-1	25
2612896	0	0	1	0	0	260	13	3	AZ	US	33.52779021	-111.9257861	1	Sep-10	1	1	19149	07 SCOTTSDALE	5	1	1	2	-1	-1	26



1	1	Single Vehicle
2	3	Angle (front to side)
3	1	Left-Turn
4	18	Rear-End
6	1	Sideswipe (Same Dir.)
97	2	Other
	26	

1	19	No Injury
2	2	Possible Injury
3	3	Non Inapacititating Injury
4	2	Incapacitating Injury
5	0	Fatality
	26	

Kimley-Horn
and Associates, Inc.

October 2013

Collision Diagram (Crash Data 2010-2012)

Scottsdale Road and Rose Lane

Exhibit A

Appendix F

Trip Generation Calculations

Land Use	ITE Code	Quantity	Units	Daily Total	AM Peak			PM Peak		
					In	Out	Total	In	Out	Total
High-Turnover Restaurant	932	6,000	**SF**	763	36	29	65	35	24	59
Specialty Retail*	826	4,647	SF	206	2	2	4	6	7	13
Total Trips				**969**	**38**	**31**	**69**	**41**	**31**	**72**
Internally Captured Trips (20% assumed of restaurant trips)				152	7	6	13	7	5	12
Total New Trips				**817**	**31**	**25**	**56**	**34**	**26**	**60**

Land Use	ITE Code	Quantity	Units	Daily Total	AM Peak			PM Peak		
					In	Out	Total	In	Out	Total
High-Turnover Restaurant	932	6,605	SF	840	39	32	71	39	26	65
Office	710	51,149	SF	564	70	10	80	13	63	76
Total Trips				**1404**	**109**	**42**	**151**	**52**	**89**	**141**
Internally Captured Trips (20% assumed of restaurant trips)				168	7	7	14	7	6	13
Total New Trips				**1236**	**102**	**35**	**137**	**45**	**83**	**128**

*Used average rate for landuse code 820 - Shopping Center to get an AM Peak trip generation estimate

Project	Cottonwoods Commercial			Kimley-Horn and Associates, Inc.	
Trip generation for	High-Turnover (Sit-Down) Restaurant				
Designed by	Name	*Date*	Date	*Job No.*	191378002
Checked by	Name	*Date*	Date	*Sheet No.*	1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE *Trip Generation 9th Edition*, Average Rate Equations

Land Use Code - 932 High-Turnover (Sit-Down) Restaurant

Independent Variable - 1,000 Sq Ft

Number of Units (X) - 6

T = Trip Ends

Peak Hour Adjacent Street Traffic One Hour Between 7 and 9 AM

AM Peak				Directional Distribution:	
T =	(X) * 10.81	Trip Ends Per 1,000 Sq Ft		55% Entering	45% Exiting
T =	65	Trip Ends		36 Entering	29 Exiting

Peak Hour Adjacent Street Traffic One Hour Between 4 and 6 PM

PM Peak				Directional Distribution:	
T =	(X) * 9.85	Trip Ends Per 1,000 Sq Ft		60% Entering	40% Exiting
T =	59	Trip Ends		35 Entering	24 Exiting

Weekday

Daily Weekday				Directional Distribution:	
T =	(X) * 127.15	Trip Ends Per 1,000 Sq Ft		50% Entering	50% Exiting
T =	764	Trip Ends		382 Entering	382 Exiting

Non-Pass-By Trip Percentage

AM	100%
PM	57%

Non-Pass-By Trip Volumes

AM Peak	36 Entering	29 Exiting
PM Peak	20 Entering	14 Exiting

Note: Rounding may occur in calculations

Project Cottonwoods Commercial

Kimley-Horn and Associates, Inc.

Trip generation for Specialty Retail Center

Designed by Name Date Date Job No. 191378002

Checked by Name Date Date Sheet No. 1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE *Trip Generation 9th Edition*, Average Rate Equations

Land Use Code - 826 Specialty Retail Center

Independent Variable - 1,000 Sq Ft GLA

Number of Units (X) - 4.647

T = Trip Ends

Peak Hour Adjacent Street Traffic One Hour Between 7 and 9 AM

AM Peak				Directional Distribution:	
T =	(X) *	*	Trip Ends Per 1,000 Sq Ft GLA	0% Entering	0% Exiting
T =	0		Trip Ends	0 Entering	0 Exiting

Peak Hour Adjacent Street Traffic One Hour Between 4 and 6 PM

PM Peak				Directional Distribution:	
T =	(X) *	2.71	Trip Ends Per 1,000 Sq Ft GLA	44% Entering	56% Exiting
T =	13		Trip Ends	6 Entering	7 Exiting

Weekday

Daily Weekday				Directional Distribution:	
T =	(X) *	44.32	Trip Ends Per 1,000 Sq Ft GLA	50% Entering	50% Exiting
T =	206		Trip Ends	103 Entering	103 Exiting

Non-Pass-By Trip Percentage

AM	100%
PM	100%

Non-Pass-By Trip Volumes

AM Peak	0 Entering	0 Exiting
PM Peak	6 Entering	7 Exiting

Note: Rounding may occur in calculations

Project	Cottonwoods Commercial			Kimley-Horn and Associates, Inc.	
Trip generation for	Shopping Center				
Designed by	Name	*Date*	Date	*Job No.*	191378002
Checked by	Name	*Date*	Date	*Sheet No.*	1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE *Trip Generation 9th Edition*, Average Rate Equations

Land Use Code - 820 Shopping Center

Independent Variable - 1,000 Sq Ft GLA

Number of Units (X) - 4.647

T = Trip Ends

Peak Hour **Adjacent Street Traffic** **One Hour Between 7 and 9 AM**

AM Peak				Directional Distribution:	
T =	(X) * 0.96	Trip Ends Per 1,000 Sq Ft GLA		62% Entering	38% Exiting
T =	4	Trip Ends		2 Entering	2 Exiting

Peak Hour **Adjacent Street Traffic** **One Hour Between 4 and 6 PM**

PM Peak				Directional Distribution:	
T =	(X) * 3.71	Trip Ends Per 1,000 Sq Ft GLA		48% Entering	52% Exiting
T =	17	Trip Ends		8 Entering	9 Exiting

Weekday

Daily Weekday				Directional Distribution:	
T =	(X) * 42.70	Trip Ends Per 1,000 Sq Ft GLA		50% Entering	50% Exiting
T =	200	Trip Ends		100 Entering	100 Exiting

Non-Pass-By Trip Percentage

AM	100%
PM	66%

Non-Pass-By Trip Volumes

AM Peak	2 Entering	2 Exiting
PM Peak	5 Entering	6 Exiting

Note: Rounding may occur in calculations

Project	Cottonwoods Commercial				Kimley-Horn and Associates, Inc.
Trip generation for	General Office Building (1)				
Designed by	Name	*Date*	Date	*Job No.*	191378002
Checked by	Name	*Date*	Date	*Sheet No.*	1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE *Trip Generation 9th Edition*, Average Rate Equations

Land Use Code - 710 General Office Building (1)

Independent Variable - 1,000 Sq Ft

Number of Units (X) - 51.149

T = Trip Ends

Peak Hour Generator

AM Peak

				Directional Distribution:	
T =	(X) * 1.56	Trip Ends Per 1,000 Sq Ft		88% Entering	12% Exiting
T =	80	Trip Ends		70 Entering	10 Exiting

Peak Hour Generator

PM Peak

				Directional Distribution:	
T =	(X) * 1.49	Trip Ends Per 1,000 Sq Ft		17% Entering	83% Exiting
T =	76	Trip Ends		13 Entering	63 Exiting

Weekday

Daily Weekday

				Directional Distribution:	
T =	(X) * 11.03	Trip Ends Per 1,000 Sq Ft		50% Entering	50% Exiting
T =	566	Trip Ends		283 Entering	283 Exiting

Non-Pass-By Trip Percentage

AM	100%
PM	100%

Non-Pass-By Trip Volumes

AM Peak	70 Entering	10 Exiting
PM Peak	13 Entering	63 Exiting

Note: Rounding may occur in calculations

Project	Cottonwoods Commercial			Kimley-Horn and Associates, Inc.	
Trip generation for	High-Turnover (Sit-Down) Restaurant				
Designed by	Name	*Date*	Date	*Job No.*	191378002
Checked by	Name	*Date*	Date	*Sheet No.*	1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE *Trip Generation 9th Edition*, Average Rate Equations

Land Use Code - 932 High-Turnover (Sit-Down) Restaurant

Independent Variable - 1,000 Sq Ft

Number of Units (X) - 6.605

T = Trip Ends

Peak Hour Adjacent Street Traffic One Hour Between 7 and 9 AM

AM Peak				Directional Distribution:	
T =	(X) * 10.81	Trip Ends Per 1,000 Sq Ft		55% Entering	45% Exiting
T =	71	Trip Ends		39 Entering	32 Exiting

Peak Hour Adjacent Street Traffic One Hour Between 4 and 6 PM

PM Peak				Directional Distribution:	
T =	(X) * 9.85	Trip Ends Per 1,000 Sq Ft		60% Entering	40% Exiting
T =	65	Trip Ends		39 Entering	26 Exiting

Weekday

Daily Weekday				Directional Distribution:	
T =	(X) * 127.15	Trip Ends Per 1,000 Sq Ft		50% Entering	50% Exiting
T =	840	Trip Ends		420 Entering	420 Exiting

Non-Pass-By Trip Percentage

AM	100%
PM	57%

Non-Pass-By Trip Volumes

AM Peak	39 Entering	32 Exiting
PM Peak	22 Entering	15 Exiting

Note: Rounding may occur in calculations

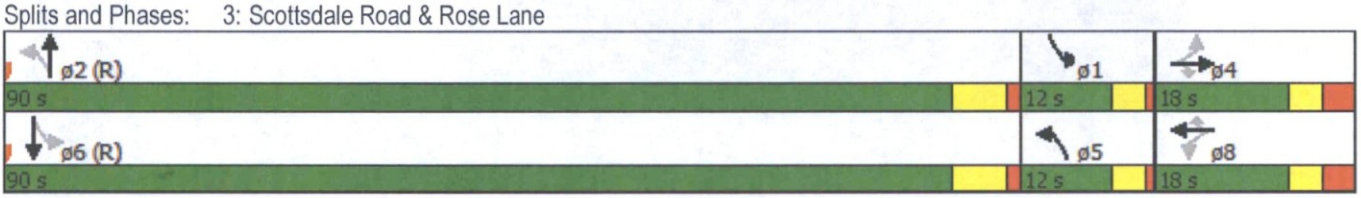
Appendix G

2016 AM Capacity Reports

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	45	8	63	12	2	11	52	1164	36	1471
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	8.0	84.0	8.0	84.0
Minimum Split (s)	18.0	18.0	18.0	18.0	18.0	18.0	12.0	90.0	12.0	90.0
Total Split (s)	18.0	18.0	18.0	18.0	18.0	18.0	12.0	90.0	12.0	90.0
Total Split (%)	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	10.0%	75.0%	10.0%	75.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag							Lag	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 65 (54%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane

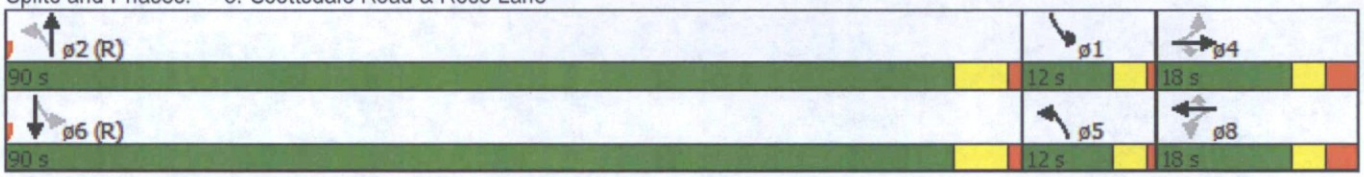


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	45	8	63	12	2	11	52	1164	46	36	1471	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	0	1	1	0	1	1	1	3	0	1	3	0
Cap, veh/h	56	6	160	57	5	160	334	3775	149	411	3848	87
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.06	0.71	0.71	0.06	0.71	0.71
Sat Flow, veh/h	0	56	1583	0	48	1583	1774	5340	211	1774	5443	123
Grp Volume(v), veh/h	59	0	70	15	0	12	58	902	442	40	1118	553
Grp Sat Flow(s),veh/h/ln	56	0	1583	48	0	1583	1774	1863	1826	1774	1863	1841
Q Serve(g_s), s	0.0	0.0	4.9	0.0	0.0	0.8	0.0	11.1	11.1	0.0	14.9	14.9
Cycle Q Clear(g_c), s	12.0	0.0	4.9	12.0	0.0	0.8	0.0	11.1	11.1	0.0	14.9	14.9
Prop In Lane	0.85		1.00	0.87		1.00	1.00		0.12	1.00		0.07
Lane Grp Cap(c), veh/h	62	0	160	61	0	160	334	2634	1291	411	2634	1301
V/C Ratio(X)	0.96	0.00	0.44	0.24	0.00	0.08	0.17	0.34	0.34	0.10	0.42	0.42
Avail Cap(c_a), veh/h	62	0	160	61	0	160	352	2634	1291	428	2634	1301
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	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.3	0.0	50.2	55.6	0.0	48.4	9.7	6.7	6.7	7.1	7.3	7.3
Incr Delay (d2), s/veh	98.6	0.0	0.7	0.8	0.0	0.1	0.1	0.4	0.7	0.0	0.5	1.0
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 Back of Q (50%), veh/ln	3.5	0.0	2.1	0.4	0.0	0.3	0.7	4.4	4.4	0.4	5.9	6.0
Lane Grp Delay (d), s/veh	156.9	0.0	50.9	56.4	0.0	48.5	9.7	7.1	7.5	7.2	7.8	8.3
Lane Grp LOS	F		D	E		D	A	A	A	A	A	A
Approach Vol, veh/h		129			27			1402			1711	
Approach Delay, s/veh		99.4			52.8			7.3			7.9	
Approach LOS		F			D			A			A	
Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		18.0			18.0		10.8	90.0		10.8	90.0	
Change Period (Y+Rc), s		6.0			6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s		12.0			12.0		8.0	84.0		8.0	84.0	
Max Q Clear Time (g_c+I1), s		14.0			14.0		2.0	13.1		2.0	16.9	
Green Ext Time (p_c), s		0.0			0.0		0.0	1.3		0.0	1.7	
Intersection Summary												
HCM 2010 Ctrl Delay			11.7									
HCM 2010 LOS			B									
Notes												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	57	9	81	12	3	11	65	1164	36	1471
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	8.0	84.0	8.0	84.0
Minimum Split (s)	18.0	18.0	18.0	18.0	18.0	18.0	12.0	90.0	12.0	90.0
Total Split (s)	18.0	18.0	18.0	18.0	18.0	18.0	12.0	90.0	12.0	90.0
Total Split (%)	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	10.0%	75.0%	10.0%	75.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag							Lag	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 65 (54%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane

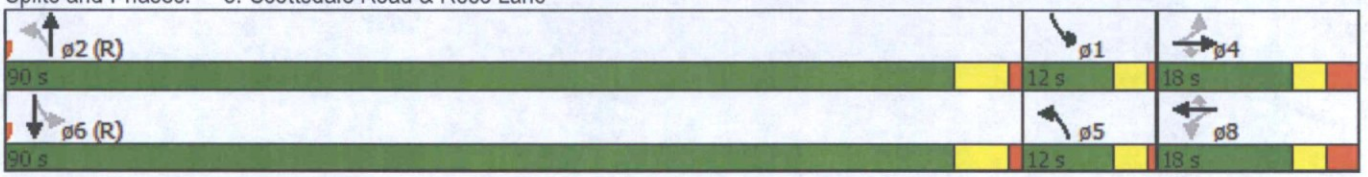


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	9	81	12	3	11	65	1164	46	36	1471	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	0	1	1	0	1	1	1	3	0	1	3	0
Cap, veh/h	56	5	159	55	7	159	337	3761	148	415	3807	109
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.06	0.70	0.70	0.06	0.70	0.70
Sat Flow, veh/h	0	49	1583	0	72	1583	1774	5340	211	1774	5405	155
Grp Volume(v), veh/h	73	0	90	16	0	12	72	902	442	40	1126	555
Grp Sat Flow(s),veh/h/ln	49	0	1583	72	0	1583	1774	1863	1826	1774	1863	1835
Q Serve(g_s), s	0.0	0.0	6.5	0.0	0.0	0.8	0.0	11.3	11.3	0.0	15.3	15.3
Cycle Q Clear(g_c), s	12.0	0.0	6.5	12.0	0.0	0.8	0.0	11.3	11.3	0.0	15.3	15.3
Prop In Lane	0.86		1.00	0.81		1.00	1.00		0.12	1.00		0.08
Lane Grp Cap(c), veh/h	61	0	159	62	0	159	337	2624	1286	415	2624	1293
V/C Ratio(X)	1.19	0.00	0.56	0.26	0.00	0.08	0.21	0.34	0.34	0.10	0.43	0.43
Avail Cap(c_a), veh/h	61	0	159	62	0	159	348	2624	1286	426	2624	1293
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	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.7	0.0	51.1	54.3	0.0	48.6	10.4	6.9	6.9	7.2	7.5	7.5
Incr Delay (d2), s/veh	176.4	0.0	2.9	0.8	0.0	0.1	0.1	0.4	0.7	0.0	0.5	1.0
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 Back of Q (50%), veh/ln	4.9	0.0	2.8	0.5	0.0	0.3	0.9	4.5	4.6	0.4	6.1	6.2
Lane Grp Delay (d), s/veh	235.0	0.0	54.0	55.1	0.0	48.7	10.5	7.2	7.6	7.2	8.0	8.5
Lane Grp LOS	F		D	E		D	B	A	A	A	A	A
Approach Vol, veh/h		163			28			1416			1721	
Approach Delay, s/veh		135.1			52.4			7.5			8.1	
Approach LOS		F			D			A			A	
Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		18.0			18.0		11.3	90.0		11.3	90.0	
Change Period (Y+Rc), s		6.0			6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s		12.0			12.0		8.0	84.0		8.0	84.0	
Max Q Clear Time (g_c+I1), s		14.0			14.0		2.0	13.3		2.0	17.3	
Green Ext Time (p_c), s		0.0			0.0		0.0	1.3		0.0	1.8	
Intersection Summary												
HCM 2010 Ctrl Delay			14.5									
HCM 2010 LOS			B									
Notes												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	77	11	94	12	8	11	104	1164	36	1471
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	8.0	84.0	8.0	84.0
Minimum Split (s)	18.0	18.0	18.0	18.0	18.0	18.0	12.0	90.0	12.0	90.0
Total Split (s)	18.0	18.0	18.0	18.0	18.0	18.0	12.0	90.0	12.0	90.0
Total Split (%)	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	10.0%	75.0%	10.0%	75.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag							Lag	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 65 (54%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane

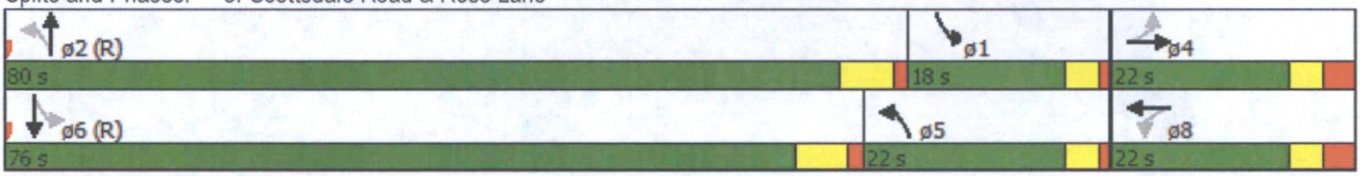


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	77	11	94	12	8	11	104	1164	46	36	1471	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	0	1	1	0	1	1	1	3	0	1	3	0
Cap, veh/h	56	0	159	48	21	159	331	3744	148	421	3628	246
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.07	0.70	0.70	0.07	0.70	0.70
Sat Flow, veh/h	0	0	1583	0	214	1583	1774	5340	211	1774	5175	351
Grp Volume(v), veh/h	98	0	104	22	0	12	116	902	442	40	1176	569
Grp Sat Flow(s),veh/h/ln	0	0	1583	214	0	1583	1774	1863	1826	1774	1863	1801
Q Serve(g_s), s	0.0	0.0	7.6	0.0	0.0	0.8	0.0	11.4	11.4	0.0	16.5	16.6
Cycle Q Clear(g_c), s	12.0	0.0	7.6	12.0	0.0	0.8	0.0	11.4	11.4	0.0	16.5	16.6
Prop In Lane	0.88		1.00	0.59		1.00	1.00		0.12	1.00		0.20
Lane Grp Cap(c), veh/h	56	0	159	69	0	159	331	2612	1280	421	2612	1262
V/C Ratio(X)	1.74	0.00	0.66	0.32	0.00	0.08	0.35	0.35	0.35	0.09	0.45	0.45
Avail Cap(c_a), veh/h	56	0	159	69	0	159	333	2612	1280	424	2612	1262
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	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.9	0.0	51.9	49.6	0.0	48.9	14.3	7.1	7.1	7.2	7.8	7.8
Incr Delay (d2), s/veh	395.0	0.0	7.6	1.0	0.0	0.1	0.2	0.4	0.7	0.0	0.6	1.2
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 Back of Q (50%), veh/ln	7.9	0.0	3.4	0.6	0.0	0.3	2.0	4.5	4.6	0.4	6.6	6.6
Lane Grp Delay (d), s/veh	454.9	0.0	59.5	50.5	0.0	49.0	14.6	7.4	7.8	7.2	8.4	9.0
Lane Grp LOS	F		E	D		D	B	A	A	A	A	A
Approach Vol, veh/h		202			34			1460			1785	
Approach Delay, s/veh		251.3			50.0			8.1			8.6	
Approach LOS		F			D			A			A	
Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		18.0			18.0		11.8	90.0		11.8	90.0	
Change Period (Y+Rc), s		6.0			6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s		12.0			12.0		8.0	84.0		8.0	84.0	
Max Q Clear Time (g_c+I1), s		14.0			14.0		2.0	13.4		2.0	18.6	
Green Ext Time (p_c), s		0.0			0.0		0.0	1.3		0.0	1.9	
Intersection Summary												
HCM 2010 Ctrl Delay			22.9									
HCM 2010 LOS			C									
Notes												

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	77	11	12	8	104	1164	36	1471
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	12.0	12.0	12.0	12.0	8.0	74.0	8.0	70.0
Minimum Split (s)	18.0	18.0	18.0	18.0	12.0	80.0	12.0	76.0
Total Split (s)	22.0	22.0	22.0	22.0	22.0	80.0	18.0	76.0
Total Split (%)	18.3%	18.3%	18.3%	18.3%	18.3%	66.7%	15.0%	63.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	3.0	3.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag					Lag	Lead	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 65 (54%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane

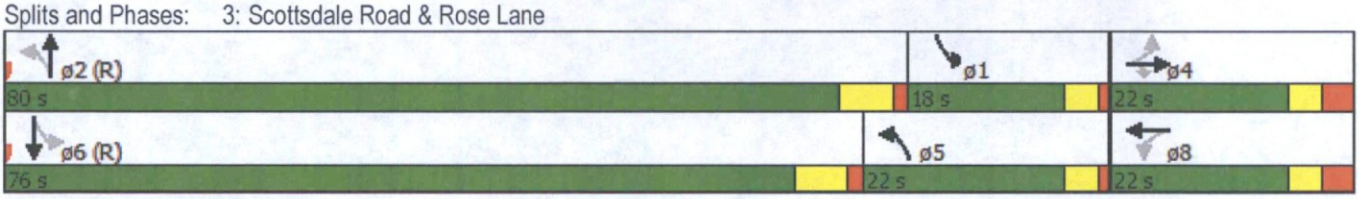


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	77	11	94	12	8	11	104	1164	46	36	1471	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Cap, veh/h	206	19	161	121	81	108	359	3674	145	382	3368	229
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.09	0.69	0.69	0.05	0.65	0.65
Sat Flow, veh/h	1385	166	1442	1271	725	967	1774	5340	211	1774	5175	351
Grp Volume(v), veh/h	86	0	116	13	0	21	116	902	442	40	1176	569
Grp Sat Flow(s),veh/h/ln	1385	0	1608	1271	0	1692	1774	1863	1826	1774	1863	1801
Q Serve(g_s), s	6.4	0.0	7.4	1.1	0.0	1.2	0.0	10.7	10.7	0.0	17.3	17.4
Cycle Q Clear(g_c), s	7.6	0.0	7.4	8.5	0.0	1.2	0.0	10.7	10.7	0.0	17.3	17.4
Prop In Lane	1.00		0.90	1.00		0.57	1.00		0.12	1.00		0.20
Lane Grp Cap(c), veh/h	206	0	179	121	0	189	359	2563	1256	382	2424	1172
V/C Ratio(X)	0.42	0.00	0.65	0.11	0.00	0.11	0.32	0.35	0.35	0.10	0.49	0.49
Avail Cap(c_a), veh/h	258	0	239	168	0	252	498	2563	1256	521	2424	1172
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	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.4	0.0	45.8	49.8	0.0	43.0	16.5	6.9	6.9	9.4	9.6	9.6
Incr Delay (d2), s/veh	0.5	0.0	1.5	0.1	0.0	0.1	0.2	0.4	0.8	0.0	0.7	1.4
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 Back of Q (50%), veh/ln	2.3	0.0	3.1	0.4	0.0	0.5	2.0	4.1	4.2	0.4	7.1	7.1
Lane Grp Delay (d), s/veh	46.9	0.0	47.2	50.0	0.0	43.1	16.7	7.3	7.7	9.5	10.3	11.0
Lane Grp LOS	D		D	D		D	B	A	A	A	B	B
Approach Vol, veh/h		202			34			1460			1785	
Approach Delay, s/veh		47.1			45.7			8.2			10.5	
Approach LOS		D			D			A			B	
Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		18.0			18.0		13.6	80.0		9.6	76.0	
Change Period (Y+Rc), s		6.0			6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s		16.0			16.0		18.0	74.0		14.0	70.0	
Max Q Clear Time (g_c+I1), s		9.6			10.5		2.0	12.7		2.0	19.4	
Green Ext Time (p_c), s		0.4			0.3		0.0	1.3		0.0	1.9	
Intersection Summary												
HCM 2010 Ctrl Delay			12.0									
HCM 2010 LOS			B									
Notes												

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	77	11	94	12	8	104	1164	36	1471
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	8.0	68.0	8.0	64.0
Minimum Split (s)	18.0	18.0	18.0	18.0	18.0	12.0	74.0	12.0	70.0
Total Split (s)	22.0	22.0	22.0	22.0	22.0	22.0	80.0	18.0	76.0
Total Split (%)	18.3%	18.3%	18.3%	18.3%	18.3%	18.3%	66.7%	15.0%	63.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag						Lag	Lead	Lag	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 65 (54%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane

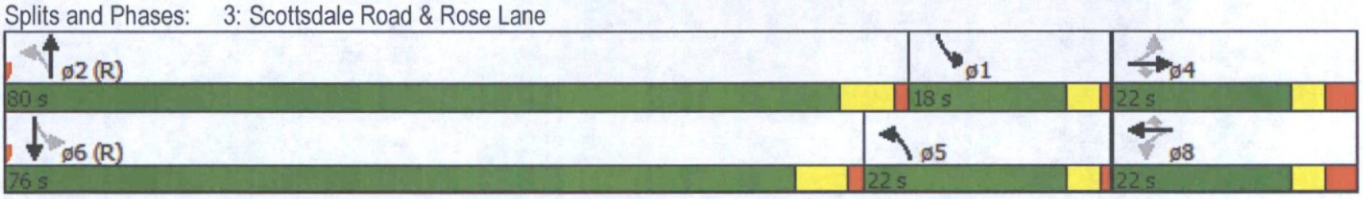


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	77	11	94	12	8	11	104	1164	46	36	1471	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	1	1	1	0	1	3	0	1	3	0
Cap, veh/h	206	208	176	201	81	108	359	3674	145	382	3368	229
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.09	0.69	0.69	0.05	0.65	0.65
Sat Flow, veh/h	1385	1863	1583	1271	725	967	1774	5340	211	1774	5175	351
Grp Volume(v), veh/h	86	12	104	13	0	21	116	902	442	40	1176	569
Grp Sat Flow(s),veh/h/ln	1385	1863	1583	1271	0	1692	1774	1863	1826	1774	1863	1801
Q Serve(g_s), s	6.4	0.6	6.7	1.0	0.0	1.2	0.0	10.7	10.7	0.0	17.3	17.4
Cycle Q Clear(g_c), s	7.6	0.6	6.7	1.6	0.0	1.2	0.0	10.7	10.7	0.0	17.3	17.4
Prop In Lane	1.00		1.00	1.00		0.57	1.00		0.12	1.00		0.20
Lane Grp Cap(c), veh/h	206	208	176	201	0	189	359	2563	1256	382	2424	1172
V/C Ratio(X)	0.42	0.06	0.59	0.06	0.00	0.11	0.32	0.35	0.35	0.10	0.49	0.49
Avail Cap(c_a), veh/h	258	277	236	249	0	252	498	2563	1256	521	2424	1172
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.4	42.7	45.4	43.5	0.0	43.0	16.5	6.9	6.9	9.4	9.6	9.6
Incr Delay (d2), s/veh	0.5	0.0	1.2	0.0	0.0	0.1	0.2	0.4	0.8	0.0	0.7	1.4
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 Back of Q (50%), veh/ln	2.3	0.3	2.8	0.3	0.0	0.5	2.0	4.1	4.2	0.4	7.1	7.1
Lane Grp Delay (d), s/veh	46.9	42.8	46.6	43.5	0.0	43.1	16.7	7.3	7.7	9.5	10.3	11.0
Lane Grp LOS	D	D	D	D		D	B	A	A	A	B	B
Approach Vol, veh/h		202			34			1460			1785	
Approach Delay, s/veh		46.5			43.3			8.2			10.5	
Approach LOS		D			D			A			B	
Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		18.0			18.0		13.6	80.0		9.6	76.0	
Change Period (Y+Rc), s		6.0			6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s		16.0			16.0		18.0	74.0		14.0	70.0	
Max Q Clear Time (g_c+I1), s		9.6			3.6		2.0	12.7		2.0	19.4	
Green Ext Time (p_c), s		0.2			0.3		0.0	1.3		0.0	1.9	
Intersection Summary												
HCM 2010 Ctrl Delay			11.9									
HCM 2010 LOS			B									
Notes												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	77	11	94	12	8	11	104	1164	36	1471
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	8.0	68.0	8.0	60.0
Minimum Split (s)	22.0	22.0	22.0	18.0	18.0	18.0	12.0	78.0	12.0	70.0
Total Split (s)	22.0	22.0	22.0	22.0	22.0	22.0	22.0	80.0	18.0	76.0
Total Split (%)	18.3%	18.3%	18.3%	18.3%	18.3%	18.3%	18.3%	66.7%	15.0%	63.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag							Lag	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 65 (54%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	77	11	94	12	8	11	104	1164	46	36	1471	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Cap, veh/h	155	267	227	153	130	111	343	3538	140	365	3243	220
Arrive On Green	0.14	0.14	0.14	0.07	0.07	0.07	0.09	0.66	0.66	0.05	0.63	0.63
Sat Flow, veh/h	1385	1863	1583	1271	1863	1583	1774	5340	211	1774	5175	351
Grp Volume(v), veh/h	86	12	104	13	9	12	116	902	442	40	1176	569
Grp Sat Flow(s),veh/h/ln	1385	1863	1583	1271	1863	1583	1774	1863	1826	1774	1863	1801
Q Serve(g_s), s	6.9	0.6	6.7	1.1	0.5	0.8	0.0	12.0	12.0	0.0	19.2	19.3
Cycle Q Clear(g_c), s	15.6	0.6	6.7	1.1	0.5	0.8	0.0	12.0	12.0	0.0	19.2	19.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.20
Lane Grp Cap(c), veh/h	155	267	227	153	130	111	343	2468	1210	365	2335	1129
V/C Ratio(X)	0.55	0.04	0.46	0.08	0.07	0.11	0.34	0.37	0.37	0.11	0.50	0.50
Avail Cap(c_a), veh/h	155	267	227	247	267	227	475	2468	1210	497	2335	1129
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	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	41.3	43.9	48.8	48.5	48.7	20.3	8.4	8.4	11.5	11.4	11.4
Incr Delay (d2), s/veh	2.6	0.0	0.5	0.1	0.1	0.2	0.2	0.4	0.9	0.0	0.8	1.6
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 Back of Q (50%), veh/ln	2.6	0.3	2.8	0.4	0.2	0.3	2.4	4.9	5.0	0.5	8.1	8.1
Lane Grp Delay (d), s/veh	54.6	41.3	44.4	48.9	48.6	48.8	20.6	8.8	9.2	11.5	12.1	13.0
Lane Grp LOS	D	D	D	D	D	D	C	A	A	B	B	B
Approach Vol, veh/h		202			34			1460			1785	
Approach Delay, s/veh		48.5			48.8			9.9			12.4	
Approach LOS		D			D			A			B	

Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		22.0			13.8		13.7	80.0		9.7	76.0	
Change Period (Y+Rc), s		6.0			6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s		16.0			16.0		18.0	74.0		14.0	70.0	
Max Q Clear Time (g_c+I1), s		17.6			3.1		2.0	14.0		2.0	21.3	
Green Ext Time (p_c), s		0.0			0.0		0.0	1.3		0.0	1.9	

Intersection Summary	
HCM 2010 Ctrl Delay	13.8
HCM 2010 LOS	B

Notes

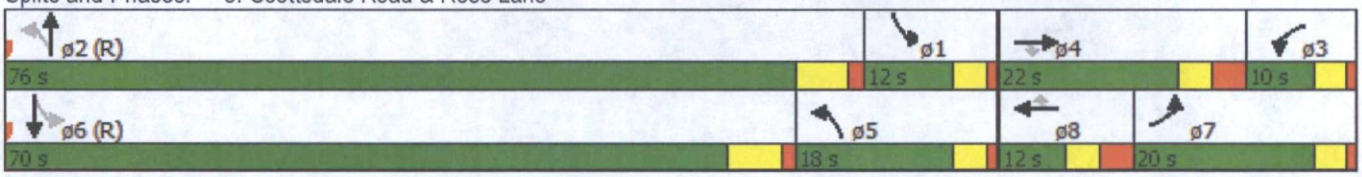
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	77	11	94	12	8	11	104	1164	36	1471
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8	2		6	
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	12.0	12.0	12.0	4.0	6.0	6.0	10.0	60.0	8.0	60.0
Minimum Split (s)	16.0	18.0	18.0	8.0	12.0	12.0	16.0	70.0	12.0	70.0
Total Split (s)	20.0	22.0	22.0	10.0	12.0	12.0	18.0	76.0	12.0	70.0
Total Split (%)	16.7%	18.3%	18.3%	8.3%	10.0%	10.0%	15.0%	63.3%	10.0%	58.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 65 (54%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane



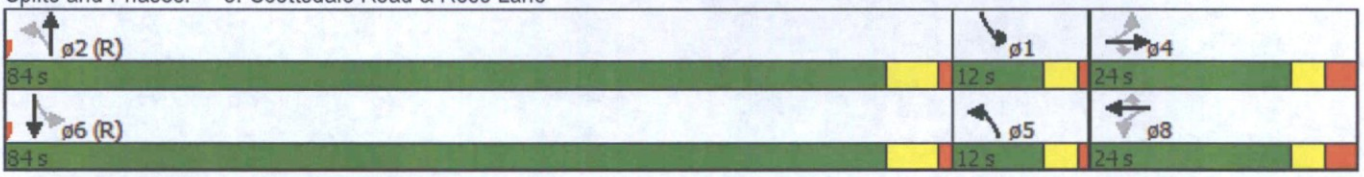
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	77	11	94	12	8	11	104	1164	46	36	1471	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Cap, veh/h	176	198	168	81	98	83	344	3313	131	334	2935	199
Arrive On Green	0.10	0.11	0.11	0.05	0.05	0.05	0.10	0.62	0.62	0.05	0.57	0.57
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	5340	211	1774	5175	351
Grp Volume(v), veh/h	86	12	104	13	9	12	116	902	442	40	1176	569
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1863	1826	1774	1863	1801
Q Serve(g_s), s	5.2	0.7	7.1	0.8	0.5	0.8	0.0	13.7	13.7	0.0	22.5	22.6
Cycle Q Clear(g_c), s	5.2	0.7	7.1	0.8	0.5	0.8	0.0	13.7	13.7	0.0	22.5	22.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.20
Lane Grp Cap(c), veh/h	176	198	168	81	98	83	344	2311	1132	334	2113	1021
V/C Ratio(X)	0.49	0.06	0.62	0.16	0.09	0.14	0.34	0.39	0.39	0.12	0.56	0.56
Avail Cap(c_a), veh/h	252	264	224	94	99	84	380	2311	1132	370	2113	1021
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	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	45.4	48.2	51.8	50.9	51.0	29.0	10.7	10.7	15.9	15.5	15.5
Incr Delay (d2), s/veh	2.1	0.0	1.4	0.9	0.1	0.3	0.2	0.5	1.0	0.1	1.1	2.2
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 Back of Q (50%), veh/ln	2.5	0.3	3.0	0.4	0.3	0.3	3.0	5.7	5.7	0.6	9.8	9.8
Lane Grp Delay (d), s/veh	50.2	45.4	49.6	52.7	51.0	51.3	29.2	11.2	11.7	15.9	16.5	17.7
Lane Grp LOS	D	D	D	D	D	D	C	B	B	B	B	B
Approach Vol, veh/h		202			34			1460			1785	
Approach Delay, s/veh		49.6			51.8			12.8			16.9	
Approach LOS		D			D			B			B	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	15.2	18.0		9.1	11.9		15.7	76.0		9.7	70.0	
Change Period (Y+Rc), s	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s	16.0	16.0		6.0	6.0		14.0	70.0		8.0	64.0	
Max Q Clear Time (g_c+I1), s	7.2	9.1		2.8	2.8		2.0	15.7		2.0	24.6	
Green Ext Time (p_c), s	0.1	0.1		0.1	0.0		0.0	1.3		0.0	1.9	
Intersection Summary												
HCM 2010 Ctrl Delay			17.4									
HCM 2010 LOS			B									
Notes												

Appendix H
2016 PM Capacity Reports

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	59	5	61	39	8	52	113	2022	58	1949
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	18.0	18.0	18.0	18.0	18.0	18.0	8.0	78.0	8.0	78.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	12.0	84.0	12.0	84.0
Total Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	12.0	84.0	12.0	84.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	10.0%	70.0%	10.0%	70.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag							Lag	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 53 (44%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane

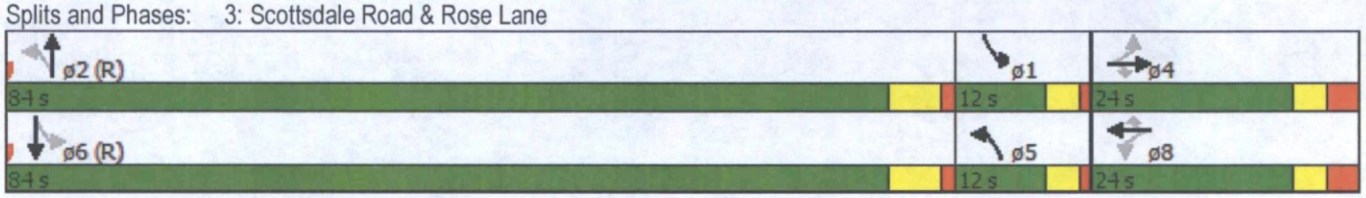


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	59	5	61	39	8	52	113	2022	14	58	1949	64
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	0	1	1	0	1	1	1	3	0	1	3	0
Cap, veh/h	58	3	238	55	7	238	247	3606	26	245	3501	114
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.07	0.65	0.65	0.07	0.65	0.65
Sat Flow, veh/h	0	19	1583	0	43	1583	1774	5542	39	1774	5381	176
Grp Volume(v), veh/h	72	0	68	52	0	58	126	1510	753	64	1497	740
Grp Sat Flow(s),veh/h/ln	19	0	1583	43	0	1583	1774	1863	1856	1774	1863	1832
Q Serve(g_s), s	0.0	0.0	4.6	0.0	0.0	3.9	0.0	28.5	28.6	0.0	28.1	28.4
Cycle Q Clear(g_c), s	18.0	0.0	4.6	18.0	0.0	3.9	0.0	28.5	28.6	0.0	28.1	28.4
Prop In Lane	0.92		1.00	0.83		1.00	1.00		0.02	1.00		0.10
Lane Grp Cap(c), veh/h	60	0	238	61	0	238	247	2424	1207	245	2424	1192
V/C Ratio(X)	1.19	0.00	0.29	0.85	0.00	0.24	0.51	0.62	0.62	0.26	0.62	0.62
Avail Cap(c_a), veh/h	60	0	238	61	0	238	249	2424	1207	247	2424	1192
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	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.1	0.0	45.2	57.7	0.0	44.9	38.5	12.3	12.3	26.7	12.2	12.3
Incr Delay (d2), s/veh	177.0	0.0	0.2	61.7	0.0	0.2	0.7	1.2	2.4	0.2	1.2	2.4
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 Back of Q (50%), veh/ln	4.8	0.0	1.9	2.7	0.0	1.6	3.7	11.9	12.3	1.6	11.8	12.1
Lane Grp Delay (d), s/veh	236.1	0.0	45.5	119.4	0.0	45.1	39.2	13.5	14.7	26.9	13.4	14.7
Lane Grp LOS	F		D	F		D	D	B	B	C	B	B
Approach Vol, veh/h		140			110			2389			2301	
Approach Delay, s/veh		143.5			80.2			15.3			14.2	
Approach LOS		F			F			B			B	
Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		24.0			24.0		11.9	84.0		11.9	84.0	
Change Period (Y+Rc), s		6.0			6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s		18.0			18.0		8.0	78.0		8.0	78.0	
Max Q Clear Time (g_c+I1), s		20.0			20.0		2.0	30.6		2.0	30.4	
Green Ext Time (p_c), s		0.0			0.0		0.0	2.6		0.0	2.6	
Intersection Summary												
HCM 2010 Ctrl Delay			19.9									
HCM 2010 LOS			B									
Notes												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	72	6	80	39	10	52	136	2022	58	1949
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	18.0	18.0	18.0	18.0	18.0	18.0	8.0	78.0	8.0	78.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	12.0	84.0	12.0	84.0
Total Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	12.0	84.0	12.0	84.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	10.0%	70.0%	10.0%	70.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag							Lag	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 53 (44%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane

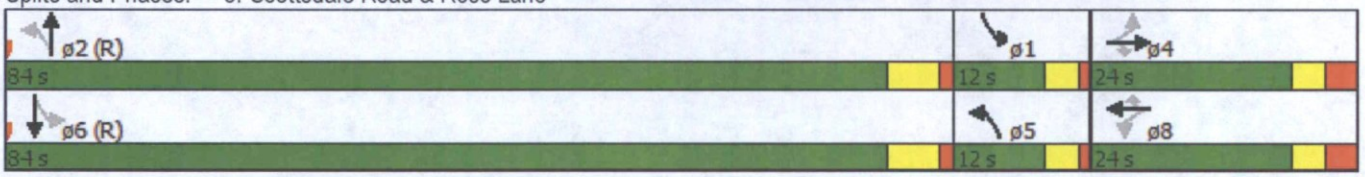


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	72	6	80	39	10	52	136	2022	14	58	1949	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	0	1	1	0	1	1	1	3	0	1	3	0
Cap, veh/h	58	3	238	54	8	238	246	3604	26	246	3469	140
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.07	0.65	0.65	0.07	0.65	0.65
Sat Flow, veh/h	0	18	1583	0	53	1583	1774	5542	39	1774	5334	216
Grp Volume(v), veh/h	87	0	89	54	0	58	151	1510	753	64	1510	744
Grp Sat Flow(s),veh/h/ln	18	0	1583	53	0	1583	1774	1863	1856	1774	1863	1825
Q Serve(g_s), s	0.0	0.0	6.1	0.0	0.0	3.9	0.9	28.6	28.6	0.0	28.6	28.9
Cycle Q Clear(g_c), s	18.0	0.0	6.1	18.0	0.0	3.9	0.9	28.6	28.6	0.0	28.6	28.9
Prop In Lane	0.92		1.00	0.80		1.00	1.00		0.02	1.00		0.12
Lane Grp Cap(c), veh/h	60	0	238	62	0	238	246	2423	1207	246	2423	1187
V/C Ratio(X)	1.44	0.00	0.37	0.87	0.00	0.24	0.61	0.62	0.62	0.26	0.62	0.63
Avail Cap(c_a), veh/h	60	0	238	62	0	238	247	2423	1207	246	2423	1187
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	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.2	0.0	45.9	57.4	0.0	45.0	41.2	12.3	12.3	26.7	12.3	12.4
Incr Delay (d2), s/veh	270.5	0.0	0.4	69.3	0.0	0.2	3.3	1.2	2.4	0.2	1.2	2.5
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 Back of Q (50%), veh/ln	6.4	0.0	2.5	2.9	0.0	1.6	4.5	11.9	12.3	1.6	11.9	12.2
Lane Grp Delay (d), s/veh	329.7	0.0	46.3	126.6	0.0	45.2	44.5	13.6	14.8	26.9	13.6	14.9
Lane Grp LOS	F		D	F		D	D	B	B	C	B	B
Approach Vol, veh/h		176			112			2414			2318	
Approach Delay, s/veh		186.4			84.5			15.9			14.4	
Approach LOS		F			F			B			B	
Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		24.0			24.0		11.9	84.0		11.9	84.0	
Change Period (Y+Rc), s		6.0			6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s		18.0			18.0		8.0	78.0		8.0	78.0	
Max Q Clear Time (g_c+I1), s		20.0			20.0		2.9	30.6		2.0	30.9	
Green Ext Time (p_c), s		0.0			0.0		0.0	2.6		0.0	2.7	
Intersection Summary												
HCM 2010 Ctrl Delay			22.7									
HCM 2010 LOS			C									
Notes												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	119	10	112	39	12	52	153	2022	58	1949
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	18.0	18.0	18.0	18.0	18.0	18.0	8.0	78.0	8.0	78.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	12.0	84.0	12.0	84.0
Total Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	12.0	84.0	12.0	84.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	10.0%	70.0%	10.0%	70.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag							Lag	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 53 (44%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane



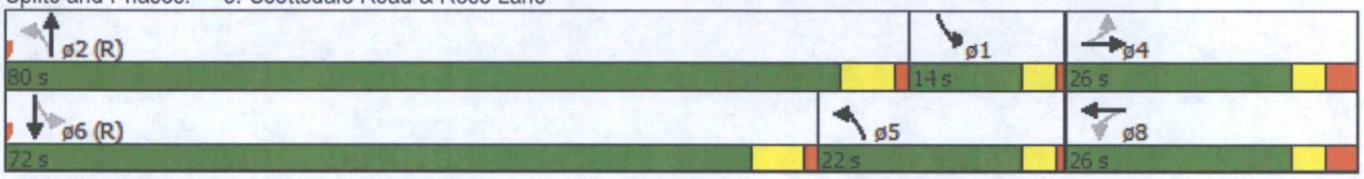
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	119	10	112	39	12	52	153	2022	14	58	1949	105
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus 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
Adj Sat Flow veh/h/ln	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	0	1	1	0	1	1	1	3	0	1	3	0
Cap, veh/h	58	0	238	53	9	238	243	3603	26	246	3417	183
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.07	0.65	0.65	0.07	0.65	0.65
Sat Flow, veh/h	0	0	1583	0	63	1583	1774	5542	39	1774	5256	282
Grp Volume(v), veh/h	143	0	124	56	0	58	170	1510	753	64	1531	752
Grp Sat Flow(s),veh/h/ln	0	0	1583	63	0	1583	1774	1863	1856	1774	1863	1813
Q Serve(g_s), s	0.0	0.0	8.7	0.0	0.0	3.9	2.5	28.6	28.7	0.0	29.3	29.7
Cycle Q Clear(g_c), s	18.0	0.0	8.7	18.0	0.0	3.9	2.5	28.6	28.7	0.0	29.3	29.7
Prop In Lane	0.92		1.00	0.77		1.00	1.00		0.02	1.00		0.16
Lane Grp Cap(c), veh/h	58	0	238	62	0	238	243	2422	1207	246	2422	1179
V/C Ratio(X)	2.48	0.00	0.52	0.90	0.00	0.24	0.70	0.62	0.62	0.26	0.63	0.64
Avail Cap(c_a), veh/h	58	0	238	62	0	238	244	2422	1207	246	2422	1179
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	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.0	0.0	47.0	57.0	0.0	45.0	43.3	12.3	12.4	26.7	12.5	12.5
Incr Delay (d2), s/veh	713.9	0.0	1.0	76.6	0.0	0.2	7.2	1.2	2.4	0.2	1.3	2.6
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 Back of Q (50%), veh/ln	13.2	0.0	3.6	3.1	0.0	1.6	5.4	11.9	12.3	1.6	12.3	12.6
Lane Grp Delay (d), s/veh	773.9	0.0	48.0	133.7	0.0	45.2	50.5	13.6	14.8	26.9	13.7	15.2
Lane Grp LOS	F		D	F		D	D	B	B	C	B	B
Approach Vol, veh/h		267			114			2433			2347	
Approach Delay, s/veh		436.8			88.6			16.5			14.6	
Approach LOS		F			F			B			B	
Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		24.0			24.0		12.0	84.0		12.0	84.0	
Change Period (Y+Rc), s		6.0			6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s		18.0			18.0		8.0	78.0		8.0	78.0	
Max Q Clear Time (g_c+I1), s		20.0			20.0		4.5	30.7		2.0	31.7	
Green Ext Time (p_c), s		0.0			0.0		0.0	2.6		0.1	2.7	
Intersection Summary												
HCM 2010 Ctrl Delay			39.0									
HCM 2010 LOS			D									
Notes												

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	119	10	39	12	153	2022	58	1949
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	14.0	14.0	10.0	10.0	12.0	68.0	8.0	56.0
Minimum Split (s)	20.0	20.0	16.0	16.0	18.0	74.0	12.0	62.0
Total Split (s)	26.0	26.0	26.0	26.0	22.0	80.0	14.0	72.0
Total Split (%)	21.7%	21.7%	21.7%	21.7%	18.3%	66.7%	11.7%	60.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	3.0	3.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag					Lag	Lead	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 53 (44%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	119	10	112	39	12	52	153	2022	14	58	1949	105
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Cap, veh/h	219	20	230	161	47	208	335	3569	25	225	3019	162
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.13	0.64	0.64	0.06	0.57	0.57
Sat Flow, veh/h	1324	131	1472	1249	298	1330	1774	5542	39	1774	5256	282
Grp Volume(v), veh/h	132	0	135	43	0	71	170	1510	753	64	1531	752
Grp Sat Flow(s),veh/h/ln	1324	0	1603	1249	0	1628	1774	1863	1856	1774	1863	1813
Q Serve(g_s), s	11.2	0.0	8.9	3.8	0.0	4.4	3.1	27.9	27.9	0.0	34.1	34.6
Cycle Q Clear(g_c), s	15.6	0.0	8.9	12.7	0.0	4.4	3.1	27.9	27.9	0.0	34.1	34.6
Prop In Lane	1.00		0.92	1.00		0.82	1.00		0.02	1.00		0.16
Lane Grp Cap(c), veh/h	219	0	250	161	0	254	335	2399	1195	225	2140	1041
V/C Ratio(X)	0.60	0.00	0.54	0.27	0.00	0.28	0.51	0.63	0.63	0.28	0.72	0.72
Avail Cap(c_a), veh/h	242	0	279	183	0	283	382	2399	1195	272	2140	1041
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	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	0.0	44.7	50.5	0.0	42.8	40.3	12.2	12.3	34.4	17.7	17.8
Incr Delay (d2), s/veh	2.0	0.0	0.7	0.3	0.0	0.2	0.4	1.3	2.5	0.3	2.1	4.3
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 Back of Q (50%), veh/ln	4.0	0.0	3.7	1.2	0.0	1.9	4.3	11.5	11.9	1.8	14.9	15.5
Lane Grp Delay (d), s/veh	51.7	0.0	45.3	50.8	0.0	43.0	40.7	13.5	14.8	34.7	19.8	22.1
Lane Grp LOS	D		D	D		D	D	B	B	C	B	C
Approach Vol, veh/h		267			114			2433			2347	
Approach Delay, s/veh		48.5			46.0			15.8			20.9	
Approach LOS		D			D			B			C	

Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		23.9			23.9		19.0	80.0		11.0	72.0	
Change Period (Y+Rc), s		6.0			6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s		20.0			20.0		18.0	74.0		10.0	66.0	
Max Q Clear Time (g_c+I1), s		17.6			14.7		5.1	29.9		2.0	36.6	
Green Ext Time (p_c), s		0.3			0.6		0.1	2.6		0.1	2.7	

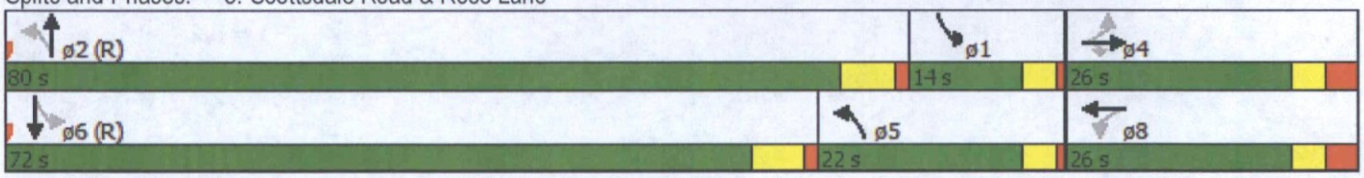
Intersection Summary		
HCM 2010 Ctrl Delay		20.5
HCM 2010 LOS		C

Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	119	10	112	39	12	153	2022	58	1949
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	18.0	18.0	18.0	18.0	18.0	8.0	74.0	8.0	64.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	20.0	80.0	14.0	70.0
Total Split (s)	26.0	26.0	26.0	26.0	26.0	22.0	80.0	14.0	72.0
Total Split (%)	21.7%	21.7%	21.7%	21.7%	21.7%	18.3%	66.7%	11.7%	60.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag						Lag	Lead	Lag	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 53 (44%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	119	10	112	39	12	52	153	2022	14	58	1949	105
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	1	1	1	0	1	3	0	1	3	0
Cap, veh/h	219	292	248	252	47	208	335	3567	25	225	3018	162
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.13	0.64	0.64	0.06	0.57	0.57
Sat Flow, veh/h	1324	1863	1583	1249	298	1330	1774	5542	39	1774	5256	282
Grp Volume(v), veh/h	132	11	124	43	0	71	170	1510	753	64	1531	752
Grp Sat Flow(s),veh/h/ln	1324	1863	1583	1249	0	1628	1774	1863	1856	1774	1863	1813
Q Serve(g_s), s	11.2	0.6	8.2	3.5	0.0	4.4	3.1	27.9	28.0	0.0	34.2	34.7
Cycle Q Clear(g_c), s	15.6	0.6	8.2	4.1	0.0	4.4	3.1	27.9	28.0	0.0	34.2	34.7
Prop In Lane	1.00		1.00	1.00		0.82	1.00		0.02	1.00		0.16
Lane Grp Cap(c), veh/h	219	292	248	252	0	255	335	2398	1195	225	2139	1041
V/C Ratio(X)	0.60	0.04	0.50	0.17	0.00	0.28	0.51	0.63	0.63	0.28	0.72	0.72
Avail Cap(c_a), veh/h	242	324	275	274	0	283	382	2398	1195	272	2139	1041
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	41.1	44.4	42.9	0.0	42.8	40.3	12.3	12.3	34.5	17.7	17.8
Incr Delay (d2), s/veh	2.0	0.0	0.6	0.1	0.0	0.2	0.4	1.3	2.5	0.3	2.1	4.3
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 Back of Q (50%), veh/ln	4.0	0.3	3.4	1.1	0.0	1.9	4.3	11.5	11.9	1.8	14.9	15.5
Lane Grp Delay (d), s/veh	51.7	41.2	44.9	43.0	0.0	43.0	40.8	13.5	14.8	34.7	19.8	22.2
Lane Grp LOS	D	D	D	D		D	D	B	B	C	B	C
Approach Vol, veh/h		267			114			2433			2347	
Approach Delay, s/veh		48.1			43.0			15.8			21.0	
Approach LOS		D			D			B			C	

Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		24.0			24.0		19.0	80.0		11.0	72.0	
Change Period (Y+Rc), s		6.0			6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s		20.0			20.0		18.0	74.0		10.0	66.0	
Max Q Clear Time (g_c+I1), s		17.6			6.4		5.1	30.0		2.0	36.7	
Green Ext Time (p_c), s		0.2			0.7		0.1	2.6		0.1	2.7	

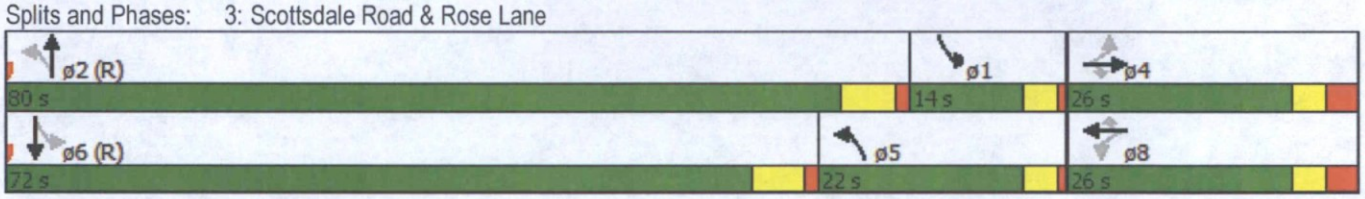
Intersection Summary		
HCM 2010 Ctrl Delay		20.4
HCM 2010 LOS		C

Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	119	10	112	39	12	52	153	2022	58	1949
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	18.0	18.0	18.0	18.0	18.0	18.0	8.0	70.0	8.0	62.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	12.0	76.0	12.0	68.0
Total Split (s)	26.0	26.0	26.0	26.0	26.0	26.0	22.0	80.0	14.0	72.0
Total Split (%)	21.7%	21.7%	21.7%	21.7%	21.7%	21.7%	18.3%	66.7%	11.7%	60.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag							Lag	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	119	10	112	39	12	52	153	2022	14	58	1949	105
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Cap, veh/h	257	292	248	252	284	241	335	3567	25	225	3018	162
Arrive On Green	0.16	0.16	0.16	0.15	0.15	0.15	0.13	0.64	0.64	0.06	0.57	0.57
Sat Flow, veh/h	1324	1863	1583	1249	1863	1583	1774	5542	39	1774	5256	282
Grp Volume(v), veh/h	132	11	124	43	13	58	170	1510	753	64	1531	752
Grp Sat Flow(s),veh/h/ln	1324	1863	1583	1249	1863	1583	1774	1863	1856	1774	1863	1813
Q Serve(g_s), s	10.9	0.6	8.2	3.5	0.7	3.7	3.1	27.9	28.0	0.0	34.2	34.7
Cycle Q Clear(g_c), s	12.0	0.6	8.2	3.6	0.7	3.7	3.1	27.9	28.0	0.0	34.2	34.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		0.16
Lane Grp Cap(c), veh/h	257	292	248	252	284	241	335	2398	1195	225	2139	1041
V/C Ratio(X)	0.51	0.04	0.50	0.17	0.05	0.24	0.51	0.63	0.63	0.28	0.72	0.72
Avail Cap(c_a), veh/h	280	324	275	279	324	275	382	2398	1195	272	2139	1041
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	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	41.1	44.4	42.9	41.6	42.9	40.3	12.3	12.3	34.5	17.7	17.8
Incr Delay (d2), s/veh	0.6	0.0	0.6	0.1	0.0	0.2	0.4	1.3	2.5	0.3	2.1	4.3
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 Back of Q (50%), veh/ln	3.8	0.3	3.4	1.1	0.3	1.5	4.3	11.5	11.9	1.8	14.9	15.5
Lane Grp Delay (d), s/veh	47.1	41.2	44.9	43.0	41.6	43.0	40.8	13.5	14.8	34.7	19.8	22.2
Lane Grp LOS	D	D	D	D	D	D	D	B	B	C	B	C
Approach Vol, veh/h		267			114			2433			2347	
Approach Delay, s/veh		45.9			42.9			15.8			21.0	
Approach LOS		D			D			B			C	
Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		24.0			23.5		19.0	80.0		11.0	72.0	
Change Period (Y+Rc), s		6.0			6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s		20.0			20.0		18.0	74.0		10.0	66.0	
Max Q Clear Time (g_c+I1), s		14.0			5.7		5.1	30.0		2.0	36.7	
Green Ext Time (p_c), s		0.2			0.1		0.1	2.6		0.1	2.7	
Intersection Summary												
HCM 2010 Ctrl Delay			20.3									
HCM 2010 LOS			C									
Notes												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	119	10	112	39	12	52	153	2022	58	1949
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8	2		6	
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	12.0	14.0	14.0	8.0	9.0	9.0	12.0	50.0	8.0	50.0
Minimum Split (s)	16.0	20.0	20.0	12.0	15.0	15.0	16.0	56.0	12.0	56.0
Total Split (s)	19.0	22.0	22.0	12.0	15.0	15.0	22.0	71.0	15.0	64.0
Total Split (%)	15.8%	18.3%	18.3%	10.0%	12.5%	12.5%	18.3%	59.2%	12.5%	53.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.7	3.0	4.7
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0	3.0	1.0	1.3	1.0	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	4.0	6.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max

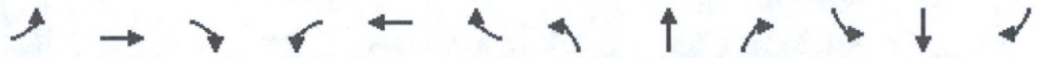
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 53 (44%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 3: Scottsdale Road & Rose Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	119	10	112	39	12	52	153	2022	14	58	1949	105
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Cap, veh/h	187	230	195	96	133	113	311	3225	23	213	2729	147
Arrive On Green	0.11	0.12	0.12	0.05	0.07	0.07	0.12	0.58	0.58	0.06	0.52	0.52
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	5542	39	1774	5256	282
Grp Volume(v), veh/h	132	11	124	43	13	58	170	1510	753	64	1531	752
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1863	1856	1774	1863	1813
Q Serve(g_s), s	8.0	0.6	8.3	2.6	0.7	3.9	4.1	31.8	31.9	0.0	37.5	38.0
Cycle Q Clear(g_c), s	8.0	0.6	8.3	2.6	0.7	3.9	4.1	31.8	31.9	0.0	37.5	38.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		0.16
Lane Grp Cap(c), veh/h	187	230	195	96	133	113	311	2168	1080	213	1934	941
V/C Ratio(X)	0.70	0.05	0.63	0.45	0.10	0.51	0.55	0.70	0.70	0.30	0.79	0.80
Avail Cap(c_a), veh/h	238	267	227	127	150	128	376	2168	1080	278	1934	941
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	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	43.2	46.6	51.2	48.5	50.0	42.1	16.4	16.4	41.3	21.9	22.1
Incr Delay (d2), s/veh	6.6	0.0	2.6	3.3	0.1	1.3	0.6	1.9	3.7	0.3	3.4	7.0
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 Back of Q (50%), veh/ln	4.0	0.3	3.5	1.3	0.4	1.7	4.6	13.8	14.3	1.7	17.1	17.7
Lane Grp Delay (d), s/veh	54.8	43.2	49.2	54.5	48.6	51.3	42.7	18.3	20.2	41.6	25.3	29.1
Lane Grp LOS	D	D	D	D	D	D	D	B	C	D	C	C
Approach Vol, veh/h		267			114			2433			2347	
Approach Delay, s/veh		51.7			52.2			20.6			27.0	
Approach LOS		D			D			C			C	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	15.8	19.8		10.0	14.0		17.9	71.0		10.9	64.0	
Change Period (Y+Rc), s	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Max Green Setting (Gmax), s	15.0	16.0		8.0	9.0		18.0	65.0		11.0	58.0	
Max Q Clear Time (g_c+I1), s	10.0	10.3		4.6	5.9		6.1	33.9		2.0	40.0	
Green Ext Time (p_c), s	0.2	0.1		0.1	0.0		0.1	2.6		0.1	2.7	
Intersection Summary												
HCM 2010 Ctrl Delay			25.8									
HCM 2010 LOS			C									
Notes												

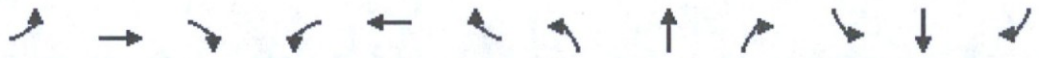
Appendix I

Queuing Analysis



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	77	11	94	12	8	11	104	1164	46	36	1471	100
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	116	0	13	21	0	116	1344	0	40	1745	0
v/c Ratio	0.55	0.42		0.10	0.10		0.40	0.37		0.12	0.52	
Control Delay	64.0	16.5		48.4	29.7		16.4	7.1		4.1	11.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	64.0	16.5		48.4	29.7		16.4	7.1		4.1	11.1	
Queue Length 50th (ft)	65	9		9	6		14	138		5	228	
Queue Length 95th (ft)	116	63		29	30		40	191		14	304	
Internal Link Dist (ft)		835			207			664			581	
Turn Bay Length (ft)							170			170		
Base Capacity (vph)	187	308		155	241		399	3680		428	3366	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.46	0.38		0.08	0.09		0.29	0.37		0.09	0.52	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	119	10	112	39	12	52	153	2022	14	58	1949	105
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	135	0	43	71	0	170	2263	0	64	2283	0
v/c Ratio	0.71	0.41		0.30	0.26		0.59	0.66		0.35	0.76	
Control Delay	69.5	13.2		50.6	17.2		41.6	13.4		23.7	20.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	69.5	13.2		50.6	17.2		41.6	13.4		23.7	20.4	
Queue Length 50th (ft)	99	8		30	9		70	355		9	446	
Queue Length 95th (ft)	163	63		65	50		147	471		43	576	
Internal Link Dist (ft)		835			220			664			581	
Turn Bay Length (ft)							170			170		
Base Capacity (vph)	222	374		181	323		328	3442		211	3018	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.59	0.36		0.24	0.22		0.52	0.66		0.30	0.76	

Intersection Summary