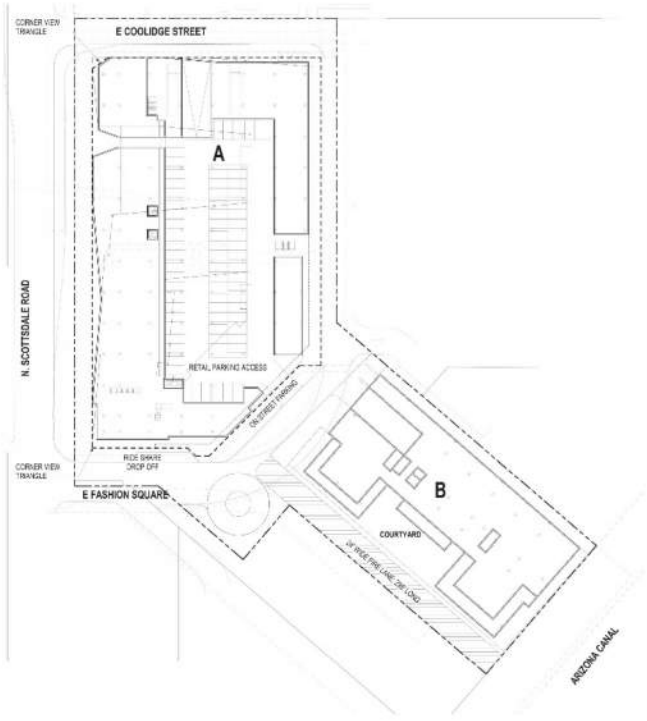
Hazel and Azure

Transportation Impact & Mitigation Analysis – Category II



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1. Introduction and Executive Summary

1.1. Purpose of Report and Study Objectives

Lōkahi, LLC (Lōkahi) was retained by ZT Scottsdale Owner, LLC to complete a Transportation Impact & Mitigation Analysis (TIMA) – Category II for the proposed Hazel and Azure development. The proposed mixed-use multifamily buildings development will be located on the northeast corner (NEC) of Fashion Square Drive and Scottsdale Road in Scottsdale, Arizona.

The proposed development will consist of two (2) buildings. Throughout the remainder of the report, these buildings will be referred to as Building A and Building B. Building A will be located along the north side of Fashion Square Drive and will consist of a total of 360 residential units with 20,000 square feet of retail. Building B will be on located on the south side of Fashion Square Drive and will consist of 174 residential units with 1,200 square feet of office. See **Figure 2** and **Appendix A** for the proposed site plan.

The objective of this Transportation Impact & Mitigation Analysis is to analyze the traffic related impacts of the proposed development to the adjacent roadway network.

1.2. Executive Summary

This report presents the analyses and the results of a Transportation Impact & Mitigation Analysis – Category II prepared for the proposed Hazel and Azure development. The proposed mixed-use multifamily residential and retail development will consist of a total of 534 residential units, with 20,000 square feet of retail, and 1,200 square feet of office and is located on northeast corner (NEC) of Fashion Drive and Scottsdale Road in Scottsdale, Arizona.

This Transportation Impact & Mitigation Analysis includes:

- Existing Conditions
  - AM and PM peak hour traffic volumes
  - AM and PM peak hour level of service analysis
- Collision History
- Trip Generation
  - Proposed Development
- Trip Distribution & Assignment
- Traffic Volumes for the opening year (2023) weekday AM and PM peak hours for the No Build and Build scenarios

- Level of service analysis for the opening year (2023) weekday AM and PM peak hours for the No Build and Build scenarios

The following seven (7) intersections are included in this study:

- Scottsdale Road and Highland Avenue (1)
- Scottsdale Road and Coolidge Street (2)
- Scottsdale Road and Fashion Square Drive (3)
- Scottsdale Road and Camelback Road (4)
- Fashion Square Drive and Driveway 66' east of Scottsdale Road (5)
- Coolidge Street and Fashion Square Drive (6)
- Fashion Square Drive and Driveway 300' northeast of Scottsdale Road (7)

Existing Conditions

The capacity and level of service for the study area intersection were evaluated for the existing conditions. All study area intersections operate with movements at a LOS D or better, with the exception of:

Scottsdale Road and Highland Avenue (1)

- Eastbound left PM peak hour operates at LOS F
- Westbound left AM and PM peak hours operate at LOS E

Scottsdale Road and Camelback Road (4)

- Eastbound left AM and PM peak hours operate at LOS F and LOS E, respectively
- Eastbound through AM peak hour operates at LOS E
- Eastbound right AM peak hour operates at LOS E
- Westbound left AM peak hour operates at LOS F
- Westbound through AM peak hour operates at LOS F
- Westbound shared through-right AM and PM peak hours operate at LOS F and LOS E, respectively.
- Northbound left AM peak hour operates at LOS F
- Southbound left AM and PM peak hours operates at LOS F and LOS E, respectively.

Trip Generation – Proposed Development

The proposed mixed-use multifamily residential and retail development will consist of a total of 534 residential units, with 20,000 square feet of retail, and 1,200 square feet of office. Therefore, the trip generation was calculated utilizing ITE Land Use 230 – Low-Rise Residential with Ground-Floor Commercial GFA (1-25k).

Trip Generation – Proposed Development

Land Use	ITE Code	Qty	Unit	Weekday	AM Peak Hour			PM Peak Hour		
				Total	Total	In	Out	Total	In	Out
Low-Rise Residential with Ground-Floor Commercial GFA (1-25k)	230	534	Dwelling Units	1,837	235	54	181	193	137	56

Future Conditions

The proposed Transportation Impact & Mitigation Analysis – Category II development is anticipated to be built out by year 2023.

According to the 2019 Maricopa Association of Government (MAG) socioeconomic projections within the proposed study area, it is estimated that in the year 2030 the population within the Regional Analysis Zone (RAZ) will be approximately 79,910. MAG estimates that the 2018 population of the surrounding area to be 68,987. This results in an approximate annual growth rate of 1.23%. To be conservative, the annual growth rate of 2.0% was utilized to project the existing traffic volumes through the year 2023.

Year 2023 No Build

The year 2023 no build analysis includes the annual growth rate applied to the background traffic volumes, with the nearby developments, and without the buildout of the proposed Hazel and Azure development.

The capacity and level of service for the study area intersection were evaluated for the year 2023 no build traffic volumes. All study area intersections operate with movements at a LOS D or better, with the exception of:

Scottsdale Road and Highland Avenue (1)

- Eastbound left PM peak hour operates at LOS F
- Westbound left PM peak hour operates at LOS E

Scottsdale Road and Camelback Road (4)

- Eastbound left AM and PM peak hour operate at LOS F and LOS E, respectively
- Eastbound through AM peak hour operates at LOS E
- Eastbound right AM peak hour operates at LOS E
- Westbound left AM Peak hour operates at LOS F
- Westbound through AM and PM peak hour operate at LOS F and LOS E, respectively.
- Westbound shared through-right AM and PM peak hour operate at LOS F and LOS E, respectively
- Northbound left AM peak hour operates at LOS F

- Southbound left AM and PM peak hour operate at LOS F and LOS E, respectively.

Year 2023 Build

The year 2023 build analysis includes the build out of the proposed Hazel and Azure development. All study area intersections operate with movements at a LOS D or better, or at the same level of service as the 2023 no-build condition.

Recommendations

In the summary and as included in the discussion and analyses above, the following are the recommended transportation related improvements:

- **Scottsdale Road and Fashion Square Drive (3)**
  Buildout of east leg of intersection to provide a dedicated left turn lane and a shared through-right turn lane.

- **Fashion Square Drive and Driveway A (8)**
  Buildout of a full access driveway

- **Fashion Square Drive and Driveway B (9)**
  Buildout of a full access driveway

- **Coolidge Street and Driveway A (10)**
  Buildout of a full access driveway

2. Proposed Development

The proposed Transportation Impact & Mitigation Analysis – Category II development is located on the NEC of Fashion Square Drive and Scottsdale Road. The site is bordered by Scottsdale Road to the west, the Arizona Canal to the east, Safari Drive I Condominium multi-family residential to the north-east, and Arcadia Country Mart commercial development to the south, and approximately 2.5 miles east of Arizona State Route 101 (SR 101). The site will be comprised of two buildings. Building A will be located on the north site of Fashion Square Drive and will consist of 360 residential units and 20,000 square feet of retail. Building B will be located on the south side of Fashion Square Drive and will consist of 174 residential units and 1,200 square feet of office. The proposed development is anticipated to be completed by the year 2023. See **Figure 2** and **Appendix A** for the proposed site plan.

There are two (2) proposed access points to the proposed Hazel and Azure development along Fashion Square Drive.

Fashion Square Drive and Building A Driveway (8) is located approximately 275 feet east of Scottsdale Road and will be a full access driveway allowing all movement into and out of the parking lot for the commercial portion of Building A of the proposed development.

Fashion Square Drive and Building B Driveway (9) is located approximately 350 feet east of Scottsdale Road and will be a full access driveway allowing all movement into and out of Building B of the proposed development.

Coolidge Street and Building A Driveway (10) is located approximately 160 feet east of Scottsdale Road and will be a full access driveway allowing all movements into and out of the parking garage for the residential portion of Building A of the proposed development.

See **Figure 3** for the proposed study area.

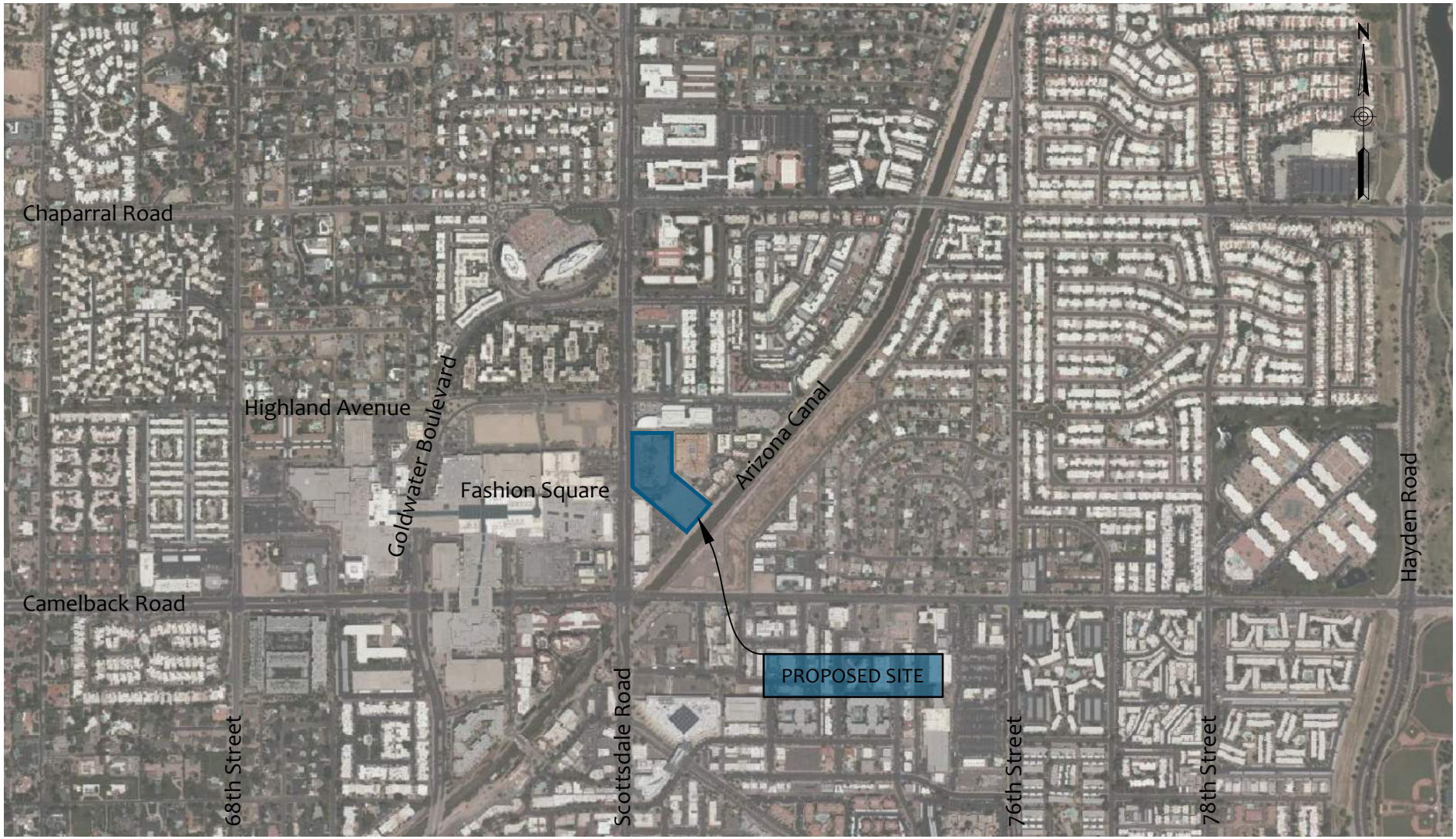


FIGURE 1 | VICINITY MAP

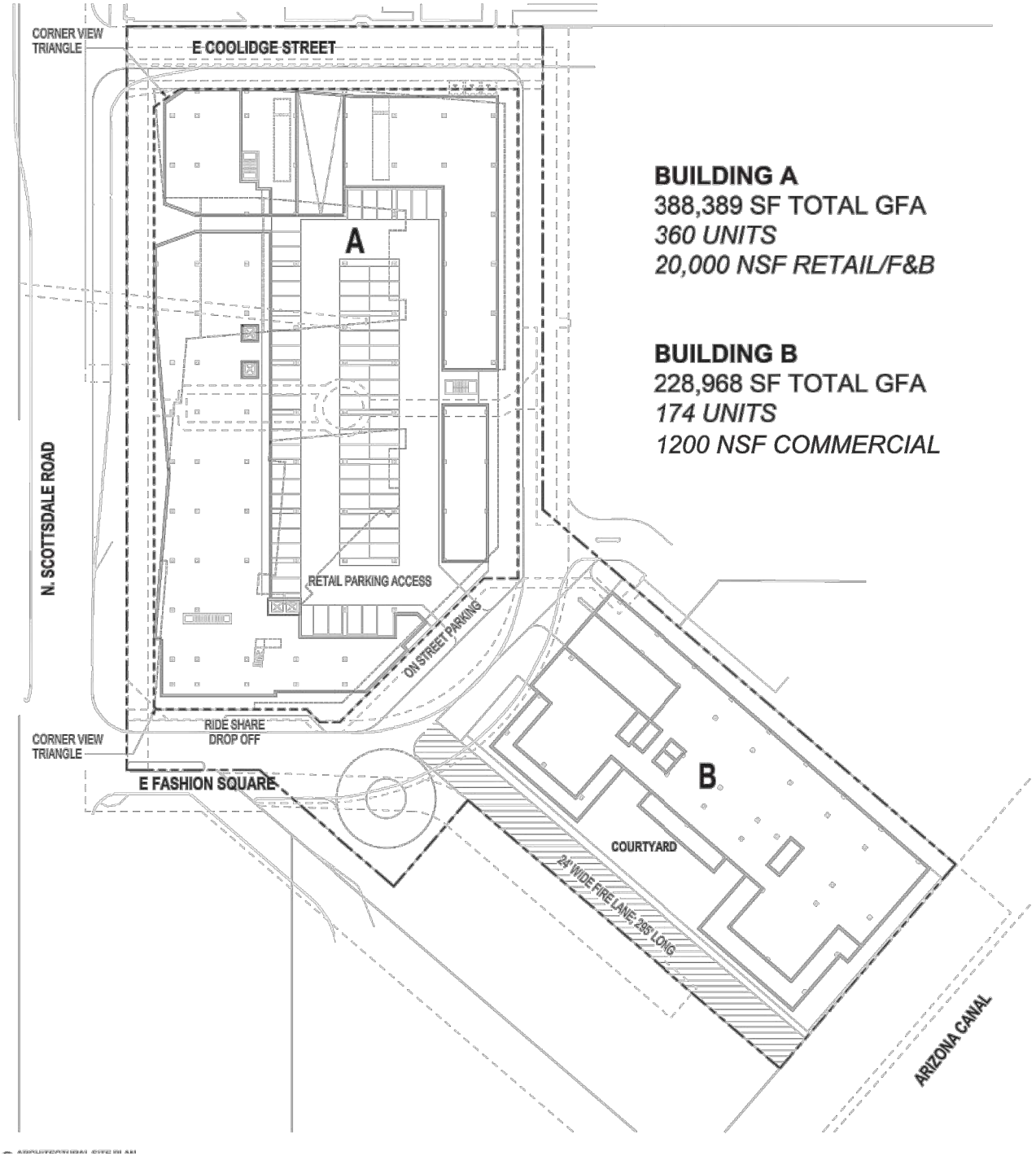


FIGURE 2 | SITE PLAN

FIGURE 3 | STUDY AREA

3. Area Conditions

The study area is located in the City of Scottsdale, Arizona. **Section 3.1** and **Section 3.2** provides detailed descriptions of the study roadway segments and intersections. See **Figure 3** for the proposed study area.

3.1. Study Roadway Segments

Scottsdale Road runs north-south and in the vicinity of the site provides three (3) through lanes for each directions of travel, with a raised landscaped median. There is a posted speed limit of 40 miles per hour (mph). The City of Scottsdale classifies Scottsdale Road as a major collector within the study area, according to *The Scottsdale Master Transportation Plan,* dated July 2016. The City of Scottsdale's *2018 Average Daily Segment Traffic (ADT) Volumes* map reports an ADT of 32,400 vehicles per day (vpd) along Scottsdale Road, between Camelback Road and Chaparral Road.

Camelback Road runs east-west and in the vicinity of the site provides two (2) through lanes for each direction of travel, with a raised landscaped median west of Scottsdale Road and with a two-way left-turn lane (TWLTL) east of Scottsdale Road. West of Scottsdale Road there is a posted speed limit of 35 mph. East of Scottsdale Road there are variable speed limit signs. The speed limit it typically posted at 35 mph but is lowered to 25 mph on Friday and Saturday from 9:00 PM to 3:00 AM. The City of Scottsdale classifies Camelback Road as a minor arterial within the study area, according to *The Scottsdale Master Transportation Plan*, dated July 2016. The City of Scottsdale's *2018 Average Daily Segment Traffic (ADT) Volumes* map reports an ADT of 22,300 vpd along Camelback Road, between Goldwater Boulevard and Scottsdale Road and an ADT of 21,000 vpd along Camelback Road, between Scottsdale Road and Miller Road.

Highland Avenue is an east-west roadway that generally provides two (2) through lanes in each direction of travel, with a raised landscaped median, in the vicinity of the study area. Approximately 250 feet east of Scottsdale Road, Highland Avenue terminates into a driveway for a car dealership parking lot. There is a posted speed limit of 35 mph.

Coolidge Street runs east-west and in the vicinity of the site provides one (1) through lane for each direction of travel. There is an unposted speed limit of 25 mph. On-street parking is provided on the north side of the roadway.

Fashion Square Drive runs east-west and in the vicinity of the site provides one (1) through lane for each direction of travel. There is an unposted speed limit of 25 mph. Fashion Square Drive west of Scottsdale Road provides access to Fashion Square Mall parking lot. Fashion Square Drive east of

Scottsdale Road terminates into an unpaved roadway. As part of this project, the east side of Fashion Square Drive will turn north and connect to Coolidge Street.

3.2. Study Intersections

Scottsdale Road and Highland Avenue (1) currently operates as a signalized intersection. The eastbound approach provides two (2) dedicated left turn lanes and one (1) shared through-right turn lane. The westbound approach provides one (1) dedicated left turn lane, and one (1) shared through-right turn lane. The northbound approach provides one (1) dedicated left turn lane, two (2) through lanes, and one (1) shared through-right turn lane. The southbound approach provides one (1) dedicated left turn lane, three (3) through lanes, and one (1) dedicated right turn lane.

Scottsdale Road and Coolidge Street (2) currently operates as a one-way stop-controlled T-intersection, with the stop control on the westbound approach. The westbound approach provides one (1) dedicated right turn lane. The northbound approach provides three (3) through lanes, and one (1) dedicated right turn lane.

Scottsdale Road and Fashion Square Drive (3) currently operates as a signalized intersection. The eastbound approach provides one (1) shared left-through turn lane and one (1) dedicated right turn lane. The westbound approach provides one (1) shared left-through-right turn lane. The northbound approach provides one (1) dedicated left turn lane, two (2) through lanes, and one (1) shared through-right turn lane. The southbound approach provides one (1) dedicated left turn lane, three (3) through lanes, and one (1) dedicated right turn lane.

Scottsdale Road and Camelback Road (4) currently operates as a signalized intersection. The eastbound approach provides two (2) dedicated left turn lanes, two (2) through lanes, and one (1) dedicated right turn lane. The westbound approach provides one (1) dedicated left turn lane, one (1) through lane, and one (1) shared through-right turn lane. The northbound approach provides two (2) dedicated left turn lanes, two (2) through lanes, and one (1) shared through-right turn lane. The southbound approach provides two (2) dedicated left turn lanes, two (2) through lanes, and one (1) dedicated right turn lane.

Fashion Square Drive and Driveway 66' east of Scottsdale Road (5) currently operates as a one-way stop-controlled T-intersection, with the stop control on the northbound approach. The northbound approach provides one (1) shared left-right turn lane. The westbound approach provides one (1) shared through-right turn lane. The eastbound approach provides one (1) shared through-left turn lane.

Fashion Square Drive and Driveway 300' northeast of Scottsdale Road (6) currently operates as a one-way stop-controlled T-intersection, with the stop control on the westbound approach. The

westbound approach provides one (1) shared left-right turn lane. The northbound approach provides one (1) shared through-right turn lane. The southbound approach provides one (1) shared through-left turn lane.

Coolidge Street and Fashion Square Drive (7) currently operates as a one-way stop-controlled T-intersection, with the stop control on the northbound approach. The northbound approach provides one (1) shared left-right turn lane. The eastbound approach provides one (1) shared through-right turn lane. The westbound approach provides one (1) shared through-left turn lane.

3.3. Site Accessibility

Roadway System

The study area is located in the City of Scottsdale, Arizona approximately two and one-third miles west of the SR 101L and four and two-third miles north of SR 202L. Scottsdale's street network is generally built as a one-mile grid system. Within the vicinity of the proposed site there is a well-developed roadway network which include the Goldwater Boulevard and Drinkwater Boulevard couplet system. The surrounding roadway network provides convenient access to SR 101L freeway interchange.

Pedestrian Facilities

Within the study area, sidewalks are provided along the east and west side of Scottsdale Road, along the north side of Coolidge Street and currently no sidewalks along Fashion Square Drive. There is an existing multi-use path located along the Arizona Canal just south of the proposed development. Pedestrian access will be provided to the multi-use path.

Bicycle Facilities

Currently, no bike lanes are provided, within the study area.

Transit Facilities

Within the study area, transit facilities are provided along the east and west side of Scottsdale Road.

3.4. Collision Rates

The City of Scottsdale's 2018 Traffic Volume and Collision Rate Data report provides collision rate and traffic volume information on major roadway segments and at major intersections within the City. Segment collisions are collisions that occur on a major street more than 100 feet from the major intersections that define the segment, including at minor intersections within the segment. Intersection collisions are collisions that occur at or within 100 feet of a major intersection.

The collision rates and city-wide rankings for the study roadway segments are shown in **Table 1**. The collision rates and city-wide rankings for the study intersections are shown in **Table 2**.

Table 1 – Collision Rates – Study Roadway Segments

Segment	From	To	Collision Rate	Rank
Scottsdale Road	Camelback Road	Chapparral Road	4.23	144
Camelback Road	Goldwater Boulevard	Scottsdale Road	6.38	6
2018 City of Scottsdale Average Segment Collision Rate			1.53	

Table 2 – Collision Rates – Study Intersections

Intersection	Collision Rate	Rank
Scottsdale Road and Camelback Road	1.74	2
2018 City of Scottsdale Average Intersection Collision Rate	0.58	

4. Existing Conditions

4.1. Existing Land Use

According to Maricopa County Assessor's website, the proposed site will occupy two (2) existing parcels, 173-38-407 and 173-38-408. Currently, the two (2) existing parcels are vacant land existing zoned for Planned Block Development district (D/RCO-2) – Downtown/Regional Commercial/Office, Type 2 land uses. See **Appendix B** for detailed parcel information.

4.2. Existing Traffic Counts

A local data collection firm, Field Data Services of Arizona, Inc., was utilized to collect traffic counts. On Thursday, May 20, 2021, turning movement counts were obtained from 7:00 to 9:00 am and from 4:00 to 6:00 pm at the following locations:

- Scottsdale Road and Highland Avenue (1)
- Scottsdale Road and Coolidge Street (2)
- Scottsdale Road and Fashion Square Drive (3)
- Scottsdale Road and Camelback Road (4)
- Fashion Square Drive and Driveway (5)
- Coolidge Street and Fashion Square Drive (6)
- Fashion Square Drive and Driveway (7)

Additionally, on Thursday, May 20, 2021, bi-directional tube counts for 24-hours in 15-minute intervals were collected along the following five (5) roadway segments:

- Highland Ave, east of Scottsdale Road
- Highland Avenue, west of Scottsdale Road
- Coolidge Street, east of Scottsdale Road
- Fashion Square Drive, east of Scottsdale Road
- Scottsdale Road, south of Highland Avenue

The turning movement counts were then analyzed for the highest 1-hour within each time period. The following peak hours were analyzed throughout this study.

AM Peak Hour	8:00 am – 9:00 am
PM Peak Hour	4:30 pm – 5:30 pm

The City of Scottsdale seasonal adjustment factors were used to adjust the traffic counts. The traffic volumes were adjusted based on the month the counts were taken. Additionally, per direction received from the City of Scottsdale, a 10% Covid adjustment factor was used to account for the reduction in traffic due to the Covid-19 pandemic and the closures associated with it. See **Appendix C** for detailed traffic count data.

See **Figure 4** for the existing weekday AM and PM peak hour traffic volumes.

4.3. Existing Capacity Analysis

The existing conditions capacity analysis was completed for the seven (7) existing study intersections. The capacity and level of service for the study area intersections were evaluated using the methodology presented in the 6th *Edition of the Highway Capacity Manual*. For the signalized intersections without typical NEMA phasing, the methodology presented in the *2000 Highway Capacity Manual* was utilized. Traffic analysis software, Synchro Version 10.3, was used to perform the analyses using the existing Peak Hour Factor (PHF) obtained from the traffic counts, and the existing signal timing provided by the City of Scottsdale. See **Appendix D** for the existing signal timing.

Table 3 is from the 6th *Edition of the Highway Capacity Manual* Exhibit 19-8 and 20-2, which lists the Level of Service (LOS) thresholds for signalized and two-way stop-controlled intersections.

Table 3 – Level of Service Criteria

Level of Service (LOS)	Control Delay per Vehicle (s/veh)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10	0 - 10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

The existing AM and PM peak hour level of service, and delay for the study the signalized and unsignalized intersections are shown in **Table 4**, and **Table 5**, respectively. See **Figure 5** for the existing AM and PM peak hour capacity analysis.

All study area intersections operate with movements at a LOS D or better, with the exception of:

Scottsdale Road and Highland Avenue (1)

- Eastbound left PM peak hour operates at LOS F
- Westbound left AM and PM peak hours operate at LOS E

Scottsdale Road and Camelback Road (4)

- Eastbound left AM and PM peak hours operate at LOS F and LOS E, respectively
- Eastbound through AM peak hour operates at LOS E
- Eastbound right AM peak hour operates at LOS E
- Westbound left AM peak hour operates at LOS F
- Westbound through AM peak hour operates at LOS F
- Westbound shared through-right AM and PM peak hours operate at LOS F and LOS E, respectively.
- Northbound left AM peak hour operates at LOS F
- Southbound left AM and PM peak hours operates at LOS F and LOS E, respectively.

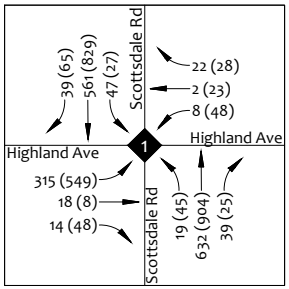
The detailed existing capacity analysis sheets can be found in **Appendix E.**

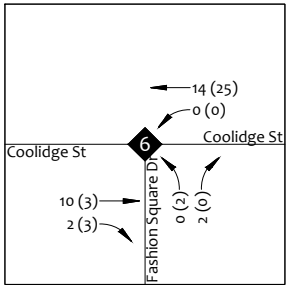
Table 4 – Existing Level of Service and Delay – Signalized Intersections

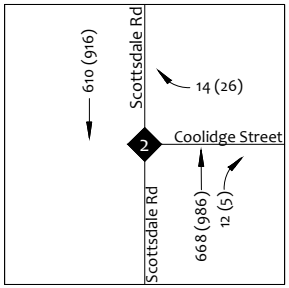
Intersection	Existing Conditions			
	AM PEAK		PM PEAK	
Signalized Intersections	LOS	DELAY	LOS	DELAY
Scottsdale Road and Highland Avenue (1)*				
Oveall Intersection	B	17.3	D	46.8
Eastbound Dual Left	D	52.8	F	165.2
Eastbound Shared Through-Right	D	42.3	D	39.8
Westbound Left	E	55.4	E	56.8
Westbound Shared Through-Right	D	54.9	D	54.5
Northbound Left	A	5.4	B	12.1
Northbound Shared Through-Right	A	6.0	B	12.4
Southbound Left	A	8.9	B	11.1
Southbound Shared Through-Right	A	9.1	B	12.3
Scottsdale Road and Fashion Square Drive (3)*				
Oveall Intersection	A	7.4	B	11.5
Eastbound Left	D	45.5	D	38.2
Eastbound Shared Through-Right	D	45.5	D	37.2
Westbound Shared Left-Through-Right	D	45.6	D	38.2
Northbound Left	A	3.6	A	4.3
Northbound Shared Through-Right	A	7.6	A	8.4
Southbound Left	A	2.6	A	5.4
Southbound Through	A	5.1	A	9.2
Southbound Shared Right	A	8.7	A	7.6
Scottsdale Road and Camelback Road (4)				
Oveall Intersection	D	51.7	D	42.7
Eastbound Dual Left	F	84.9	E	57.5
Eastbound Through	E	67.9	D	48.9
Eastbound Right	E	66.2	D	50.0
Westbound Left	F	88.5	D	49.4
Westbound Through	F	84.6	D	54.5
Westbound Shared Through-Right	F	87.9	E	55.9
Northbound Dual Left	F	86.3	D	35.6
Northbound Through	B	14.4	C	24.5
Northbound Shared Through-Right	B	14.5	C	25.2
Southbound Dual Left	F	85.7	E	56.8
Southbound Through	B	13.9	D	41.6
Southbound Right	B	12.9	C	27.2
**Results from HCM 2000*				

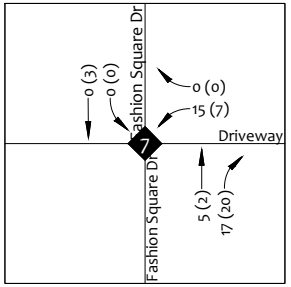
Table 5 – Existing Level of Service and Delay – Unsignalized Intersections

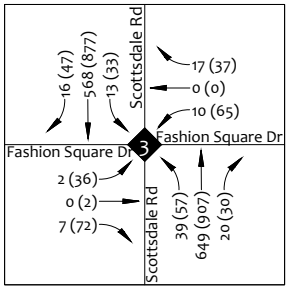
Intersection	Existing Conditions			
	AM PEAK		PM PEAK	
Unsignalized Intersections	LOS	DELAY	LOS	DELAY
Scottsdale Road and Coolidge Street (2)				
Westbound Right	A	9.7	B	10.4
Fashion Square Drive and Driveway 66' e/o Scottsdale Road (5)				
Northbound Shared Left-Right	A	8.7	A	9.4
Westbound Shared Left-Through	A	7.3	A	0.0
Coolidge Street and Fashion Square Drive (6)				
Northbound Shared Left-Right	A	8.4	A	8.7
Westbound Shared Left-Through	A	0.0	A	0.0
Fashion Square Drive and Driveway 300' ne/o Scottsdale Road (7)				
Westbound Shared Left-Right	A	8.7	A	8.6
Southbound Shared Left-Through	A	0.0	A	0.0

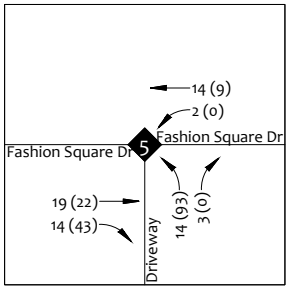


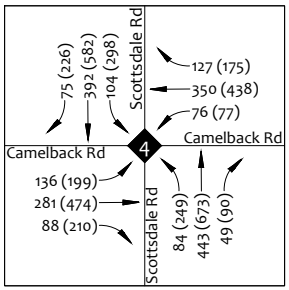








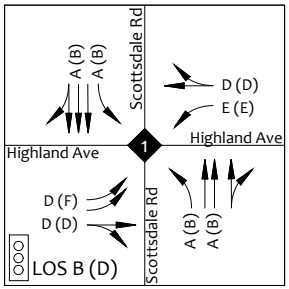


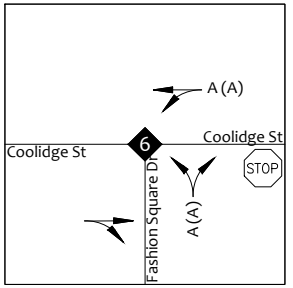


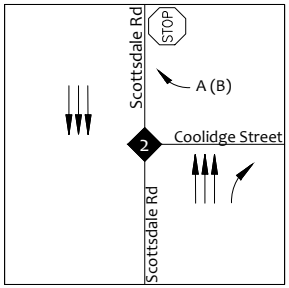
LEGEND

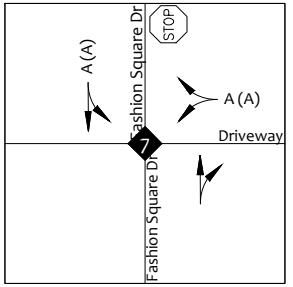
AM (PM)	Peak Hour Traffic Volumes
X	Intersection
<ADT>	Average Daily Traffic

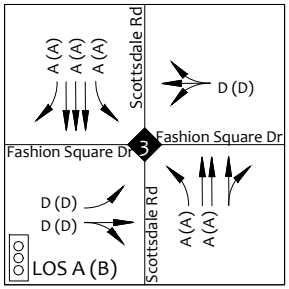
FIGURE 4 | EXISTING TRAFFIC VOLUMES

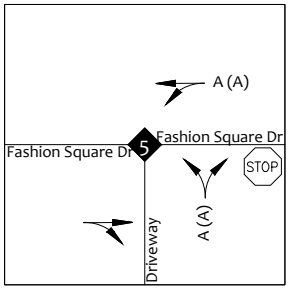


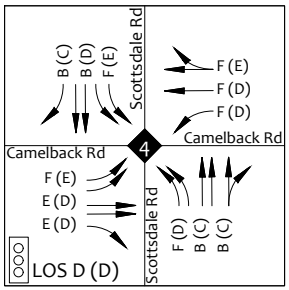












LEGEND

AM (PM) Peak Hour Traffic Volumes

Intersection

Lane Configuration

FIGURE 5 | EXISTING CAPACITY ANALYSIS

5. Projected Traffic

5.1. Trip Generation – Proposed Development

The trip generation for the proposed development was calculated utilizing the Institute of Transportation Engineers (ITE) publication entitled *Trip Generation, 11th Edition*. The ITE rates are based on studies that measured the trip generation characteristics for various types of land uses. The rates are expressed in terms of trips per unit of land use type. This publication is considered to be the standard for the transportation engineering profession.

The proposed development consists of two buildings. Building A will be located on the north side of Fashion Square Drive and will consist of 360 residential units and 20,000 square feet of retail. Building B will be located on the south side of Fashion Square Drive and will consist of 174 residential units and 1,200 square feet of office space. The trip generation was calculated utilizing ITE Land Use 230 – Low-Rise Residential with Ground-Floor Commercial GFA (1-25k). Trip generation calculations are shown in **Table 6** below. See **Appendix F** for detailed trip generation calculations.

Table 6 – Trip Generation – Proposed Development

Land Use	ITE Code	Qty	Unit	Weekday	AM Peak Hour			PM Peak Hour		
				Total	Total	In	Out	Total	In	Out
Low-Rise Residential with Ground-Floor Commercial GFA (1-25k)	230	534	Dwelling Units	1,837	235	54	181	193	137	56

Based on the average calculations shown in **Appendix F**, the proposed development is anticipated to generate 1,837 weekday trips, with 235 trips during the AM peak hour, and 193 trips in the PM peak hour.

Directly east of the proposed development, is the Gramercy Scottsdale development, which is a multi-family development with 160 units. At the time of this report it was determined that the development was at 98% capacity. At the recommendation of the City, the trips for the additional 2% capacity were added to the site traffic. The trip generation was calculated utilizing ITE Land Use 221 – Multifamily Housing (Mid-Rise). Trip generation calculations are shown in **Table 7** below. See **Appendix F** for detailed trip generation calculations.

Table 7 – Trip Generation – Gramercy Development

Land Use	ITE Code	Qty	Unit	Weekday	AM Peak Hour			PM Peak Hour		
				Total	Total	In	Out	Total	In	Out
Multifamily Housing (Mid-Rise)	221	4	Dwelling Units	18	1	0	1	2	1	1

Based on the average calculations shown in **Appendix F**, the remaining residential units for the existing Gramercy Scottsdale development are anticipated to generate 18 weekday trips, with 1 trip during the AM peak hour, and 2 trips in the PM peak hour.

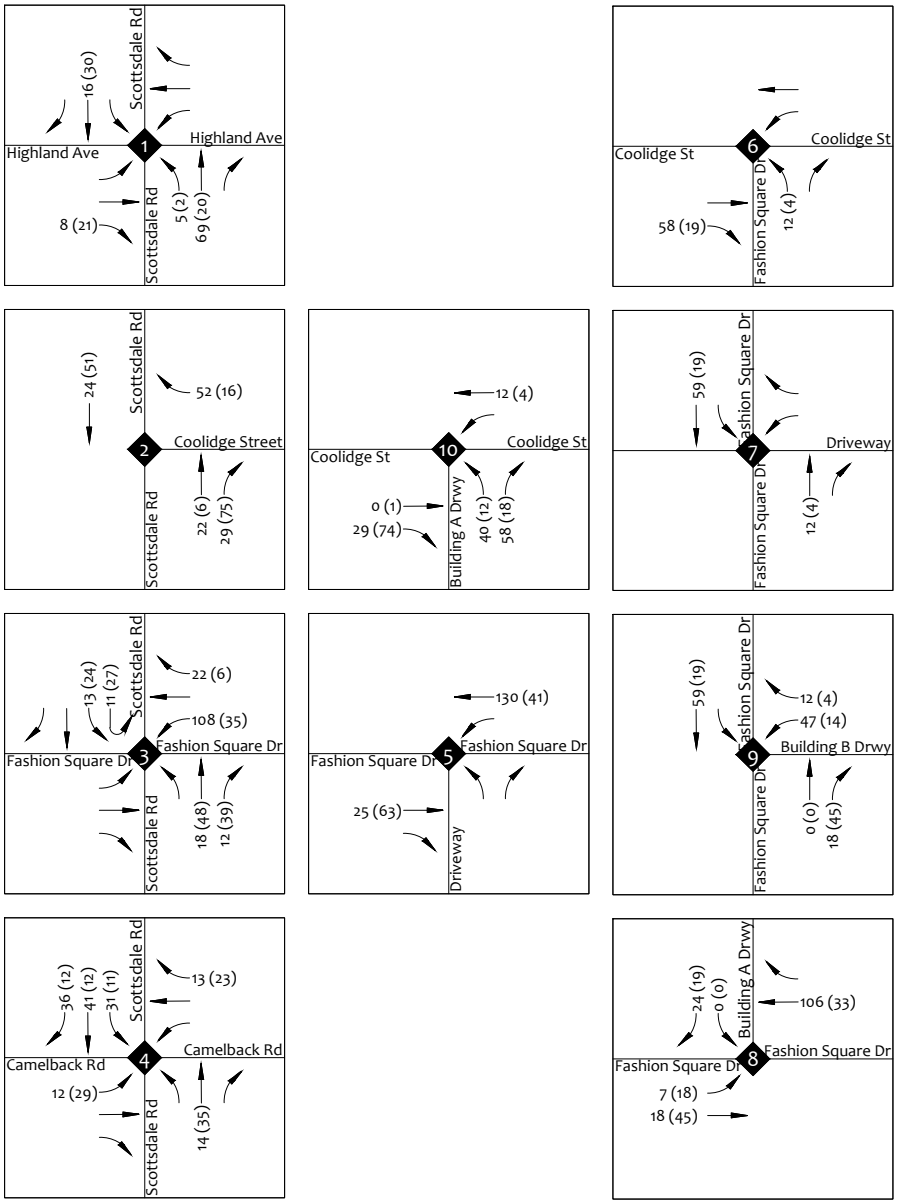
5.2. Trip Distribution and Assignment

The trip distribution procedure determines the general pattern of travel for vehicles entering and leaving the proposed development. The trip distribution and trip assignment for the proposed Hazel and Azure development is based on the surrounding roadway network, permitted movements at the proposed site driveway, and probable routes. The trip distribution is shown in **Figure 6**. The site generated traffic volumes are shown in **Figure 7**.

Legend

Ingress (Egress)	Inbound Trip Distribution Percentages
Ingress (Egress)	Outbound Trip Distribution Percentages
X	Intersection

FIGURE 6 | TRIP DISTRIBUTION



LEGEND

AM (PM)	Peak Hour Traffic Volumes
X	Intersection
<ADT>	Average Daily Traffic

FIGURE 7 | SITE TRAFFIC VOLUMES

6. Future Conditions (Year 2023)

The proposed Hazel and Azure development is anticipated to be built out by the year 2023. This section analyzes the traffic related impacts of the proposed development on the surrounding roadway network in the year 2023.

6.1. Year 2023 Background Traffic Volumes

According to the 2019 Maricopa Association of Government (MAG) socioeconomic projections within the proposed study area, it is estimated that in the year 2030 the population within the Regional Analysis Zone (RAZ) will be approximately 79,910. MAG estimates that the 2018 population of the surrounding area to be 68,987. This results in an approximate annual growth rate of 1.23%.

As a conservative approach, the annual growth rate of 2.0% was utilized. See **Appendix G** for the MAG socioeconomic projections. See **Figure 8** for the year 2023 background traffic volumes.

6.2. Year 2023 Build Traffic Volumes

To determine year 2023 build traffic volumes, the site traffic volumes (**Figure 7**) were added to the year 2023 background traffic volumes (**Figure 8**). This represents year 2023 traffic volumes with the buildout of the proposed Hazel and Azure development. See **Figure 9** for the year 2023 AM and PM peak hour traffic volumes.

6.3. Year 2023 No Build Capacity Analysis

The capacity and level of service for the study area intersections were evaluated for the 2023 no build scenario. The signal timing splits were optimized and adjusted for the future traffic volumes. PHF was assumed to be 0.92.

The year 2023 no build AM and PM peak hour level of service and delay for signalized and unsignalized intersections are shown in **Table 8**, and **Table 9**, respectively. The detailed capacity analysis sheets can be found in **Appendix H**. The results of the year 2023 no build capacity analysis are shown in **Figure 10**.

All study area intersections operate with movements at a LOS D or better, with the exception of:

Scottsdale Road and Highland Avenue (1)

- Eastbound left PM peak hour operates at LOS F
- Westbound left PM peak hour operates at LOS E

Scottsdale Road and Camelback Road (4)

- Eastbound left AM and PM peak hour operate at LOS F and LOS E, respectively
- Eastbound through AM peak hour operates at LOS E
- Eastbound right AM peak hour operates at LOS E
- Westbound left AM Peak hour operates at LOS F
- Westbound through AM and PM peak hour operate at LOS F and LOS E, respectively.
- Westbound shared through-right AM and PM peak hour operate at LOS F and LOS E, respectively
- Northbound left AM peak hour operates at LOS F
- Southbound left AM and PM peak hour operate at LOS F and LOS E, respectively.

6.4. Year 2023 Build Capacity Analysis

The capacity and level of service for the study area intersections were evaluated for the year 2023 build traffic volumes. See **Figure 9**. The signal timing splits were optimized and adjusted for the future traffic volumes, and a PHF of 0.92 was used.

The following improvements were included in the year 2023 capacity analysis:

- **Scottsdale Road and Fashion Square Drive (3)**
  Buildout of east leg of intersection to provide a dedicated left turn lane and a shared through-right turn lane.

- **Fashion Square Drive and Driveway A (8)**
  Buildout of a full access driveway

- **Fashion Square Drive and Driveway B (9)**
  Buildout of a full access driveway

- **Coolidge Street and Driveway A (10)**
  Buildout of a full access driveway

The year 2023 build AM and PM peak hour level of service and delay for signalized and unsignalized intersections are shown in **Table 8**, and **Table 9**, respectively. The detailed capacity analysis sheets can be found in **Appendix I**.

The results of the year 2023 build capacity analysis are shown in **Figure 11**.

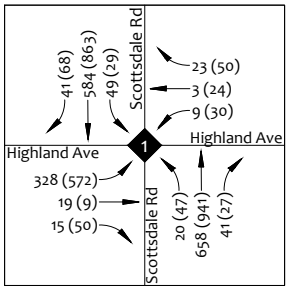
All movements operate at a LOS D or better, or at the same level of service as the 2023 no-build condition.

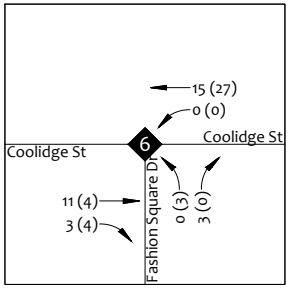
Table 8 – Year 2023 Level of Service and Delay – Signalized Intersections

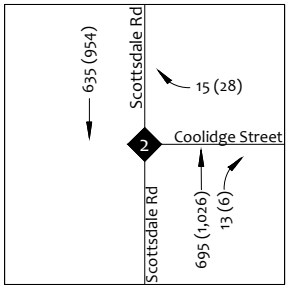
Intersection	2023 No Build Conditions				2023 Build Conditions			
	AM PEAK		PM PEAK		AM PEAK		PM PEAK	
Signalized Intersections	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY
Scottsdale Road and Highland Avenue (1)*								
Oveall Intersection	B	18.1	D	51.6	B	17.7	D	42.9
Eastbound Dual Left	D	51.9	F	187.3	D	51.9	F	137.9
Eastbound Shared Through-Right	D	40.8	D	39.8	D	40.8	D	38.1
Westbound Left	D	54.9	E	59.1	D	54.9	E	56.5
Westbound Shared Through-Right	D	54.2	D	54.6	D	54.2	D	50.8
Northbound Left	A	6.2	B	12.4	A	6.6	B	16.3
Northbound Shared Through-Right	A	7.0	B	12.5	A	7.0	B	15.9
Southbound Left	B	10.4	B	11.4	B	10.6	B	14.6
Southbound Shared Through-Right	B	10.4	B	12.4	B	10.4	B	15.8
Scottsdale Road and Fashion Square Drive (3)*								
Oveall Intersection	A	7.0	B	11.7	B	13.7	B	13.0
Eastbound Left	D	45.6	D	38.3	D	36.9	D	37.0
Eastbound Shared Through-Right	D	45.5	D	37.2	D	36.9	D	36.0
Westbound Shared Left-Through-Right	D	45.6	D	38.6	-	-	-	-
Westbound Left	-	-	-	-	D	41.5	D	41.9
Westbound Shared Through-Right	-	-	-	-	D	37.1	D	35.8
Northbound Left	A	3.6	A	4.4	A	7.0	A	5.5
Northbound Shared Through-Right	A	7.6	A	8.6	B	13.9	B	10.6
Southbound Left	A	2.0	A	5.4	A	3.3	A	5.5
Southbound Through	A	4.0	A	9.4	A	7.0	A	9.9
Southbound Shared Right	A	8.7	A	7.6	B	13.1	A	7.9
Scottsdale Road and Camelback Road (4)								
Oveall Intersection	D	52.8	D	44.0	D	52.7	D	46.2
Eastbound Dual Left	F	84.6	E	59.1	F	84.2	E	55.2
Eastbound Through	E	66.6	D	48.1	E	65.3	D	48.1
Eastbound Right	E	64.8	D	49.2	E	65.3	D	49.2
Westbound Left	F	88.0	D	48.8	F	88.0	D	47.5
Westbound Through	F	87.7	E	56.1	F	88.4	E	65.9
Westbound Shared Through-Right	F	91.0	E	57.5	F	91.9	E	68.0
Northbound Dual Left	F	86.1	D	37.7	F	86.1	D	38.8
Northbound Through	B	16.0	C	27.2	B	17.5	C	28.9
Northbound Shared Through-Right	B	16.2	C	28.2	B	17.8	C	30.0
Southbound Dual Left	F	85.4	E	58.1	F	84.5	E	61.6
Southbound Through	B	15.5	D	42.8	B	16.4	D	43.2
Southbound Right	B	14.4	C	28.0	B	15.4	C	28.0
*Results from HCM 2000								

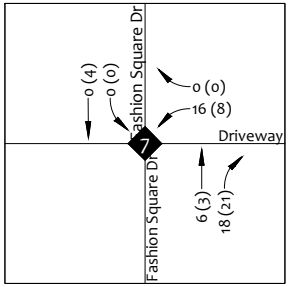
Table 9 – Year 2023 Level of Service and Delay – Unsignalized Intersections

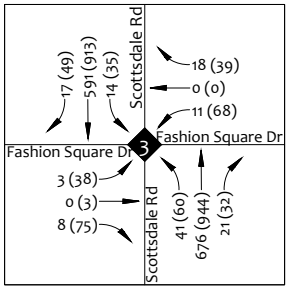
Intersection	2023 No Build Conditions				2023 Build Conditions			
	AM PEAK		PM PEAK		AM PEAK		PM PEAK	
Unsignalized Intersections	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY
Scottsdale Road and Coolidge Street (2)								
Westbound Right	A	9.8	B	10.4	B	10.2	B	10.5
Fashion Square Drive and Driveway 66' e/o Scottsdale Road (5)								
Northbound Shared Left-Right	A	8.8	A	9.2	A	9.5	A	9.7
Westbound Shared Left-Through	A	7.3	A	0.0	A	7.3	A	0.0
Coolidge Street and Fashion Square Drive (6)								
Northbound Shared Left-Right	A	8.4	A	8.7	A	8.8	A	8.8
Westbound Shared Left-Through	A	0.0	A	0.0	A	0.0	A	0.0
Fashion Square Drive and Driveway 300' ne/o Scottsdale Road (7)								
Westbound Shared Left-Right	A	8.7	A	8.6	A	9.1	A	8.8
Southbound Shared Left-Through	A	0.0	A	0.0	A	0.0	B	0.0
Fashion Square Drive and Building A Driveway (8)								
Eastbound Shared Left-Through	-	-	-	-	A	7.3	A	7.5
Southbound Shared Left-Right	-	-	-	-	A	8.6	A	9.9
Fashion Square Drive and Building B Driveway (9)								
Westbound Shared Left-Right	-	-	-	-	A	9.9	A	8.6
Southbound Shared Left-Through	-	-	-	-	A	0.0	A	0.0
Cooliedge Street and Building A Driveway (10)								
Northbound Shared Left-Right	-	-	-	-	A	9.0	A	8.8
Westbound Shared Left-Through	-	-	-	-	A	0.0	A	0.0

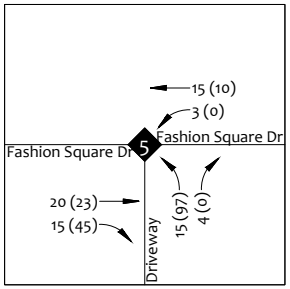


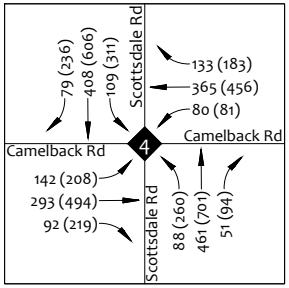








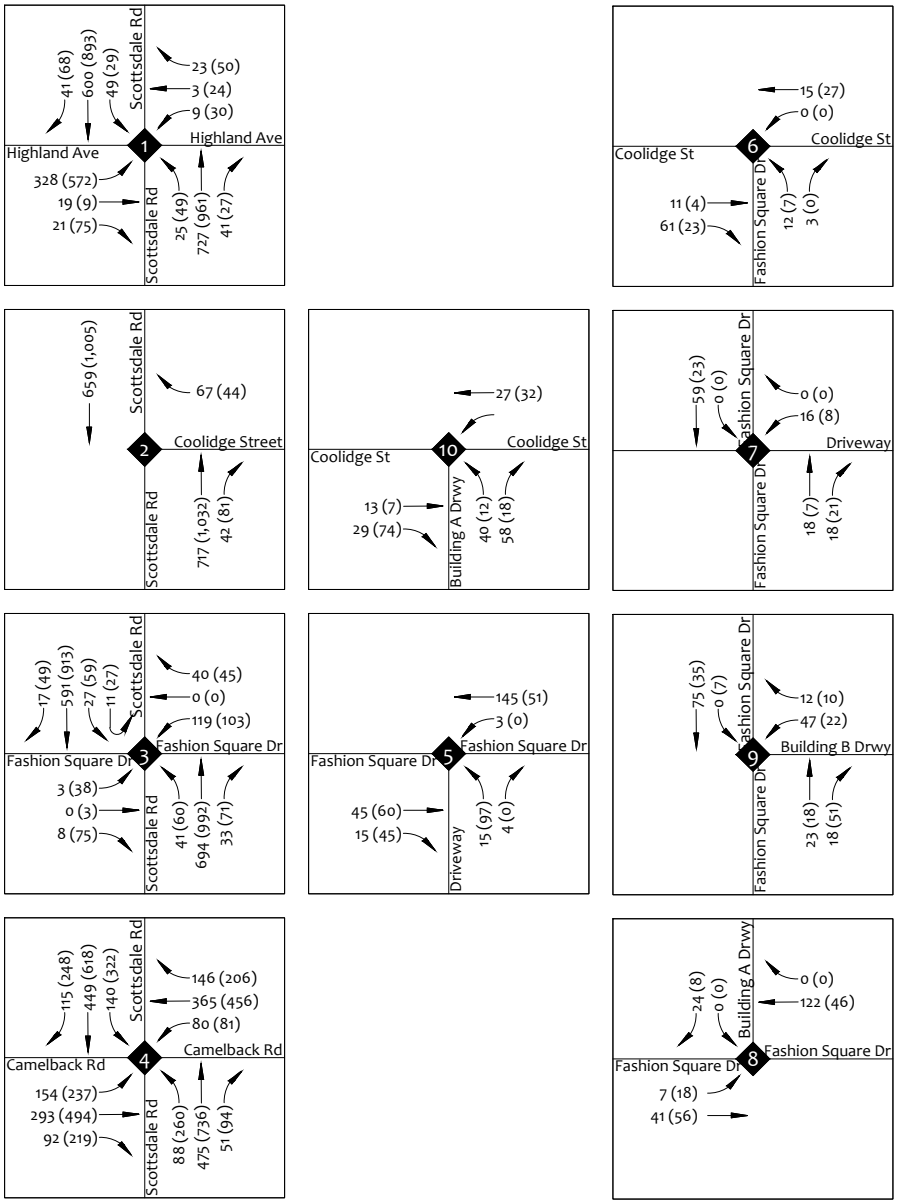




LEGEND

AM (PM)	Peak Hour Traffic Volumes
X	Intersection
<ADT>	Average Daily Traffic

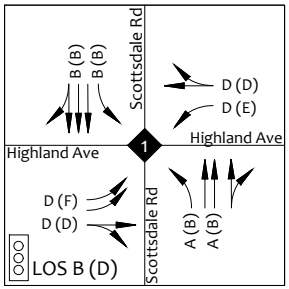
FIGURE 8 | YEAR 2023 BACKGROUND TRAFFIC VOLUMES

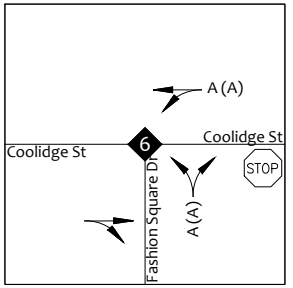


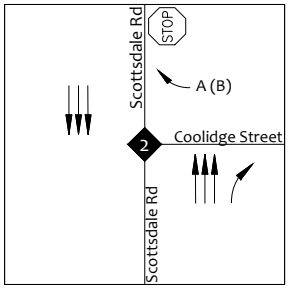
LEGEND

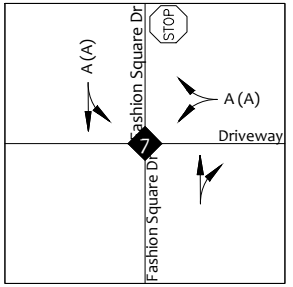
AM (PM)	Peak Hour Traffic Volumes
X	Intersection
<ADT>	Average Daily Traffic

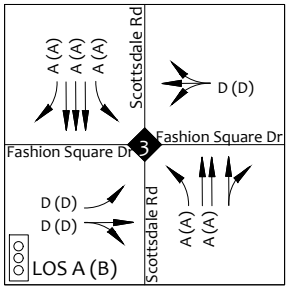
FIGURE 9 | YEAR 2023 BUILD TRAFFIC VOLUMES

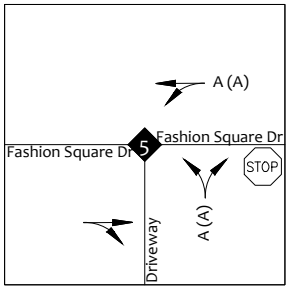


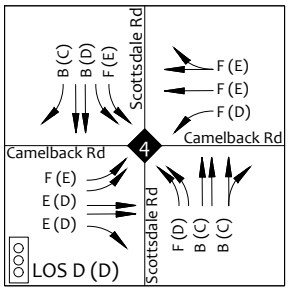












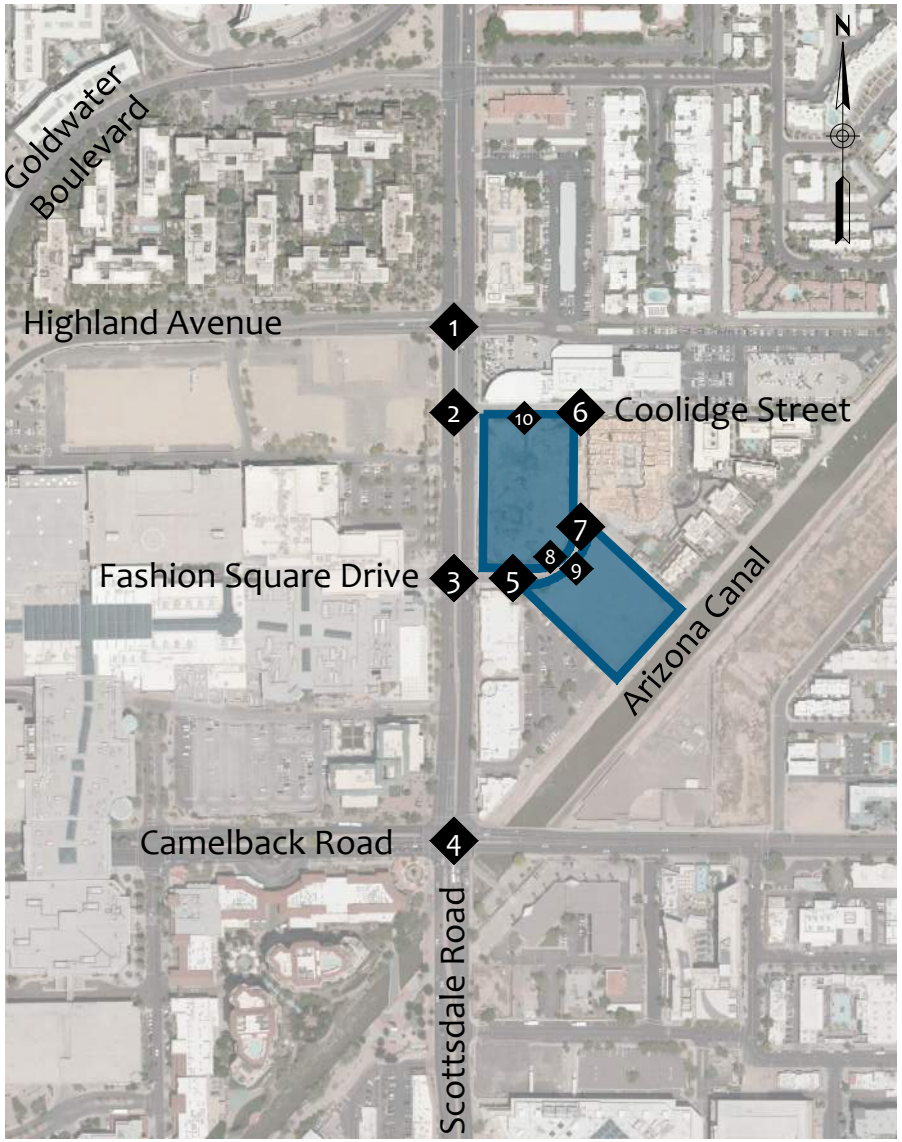
LEGEND

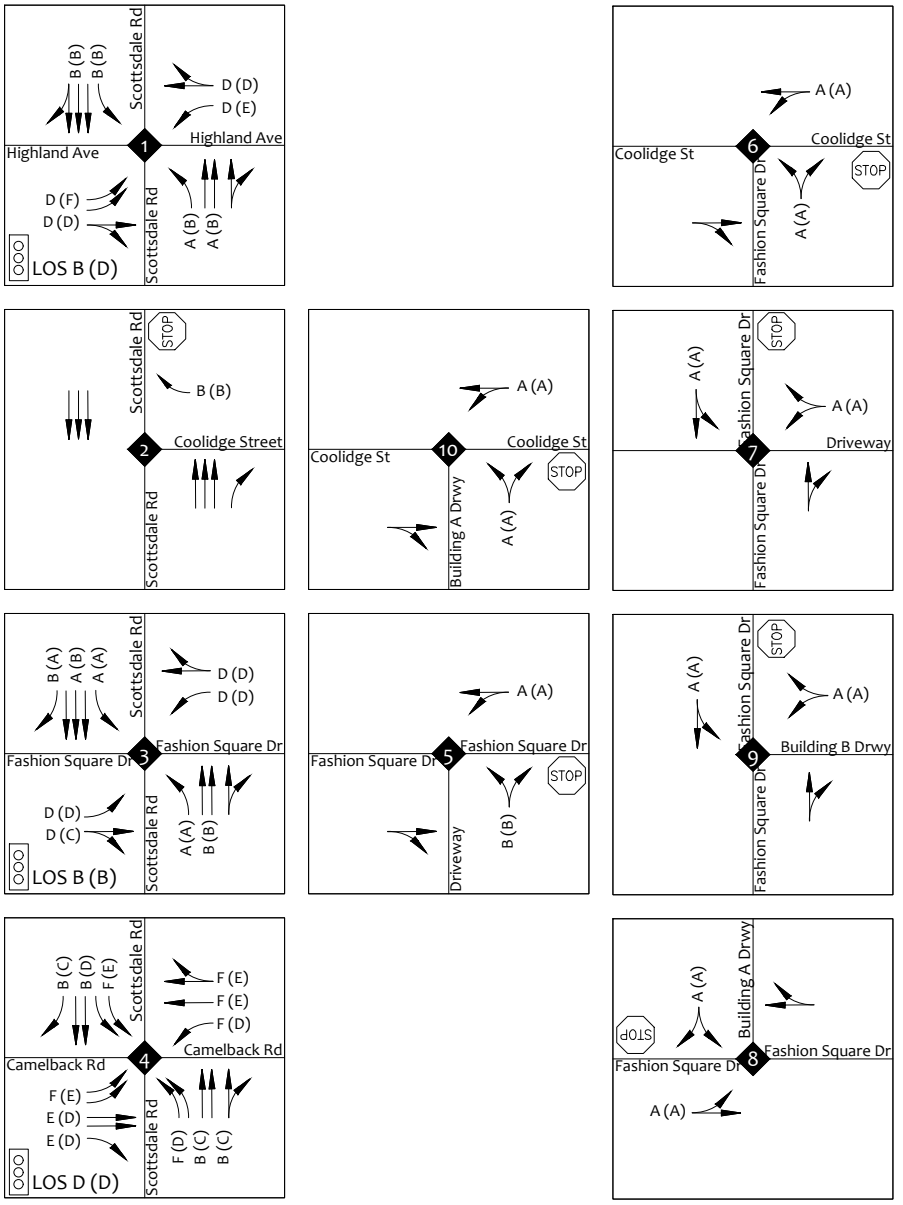
AM (PM) Peak Hour Traffic Volumes

Intersection

Lane Configuration

FIGURE 10 | YEAR 2023 NO BUILD CAPACITY ANALYSIS





LEGEND

AM (PM) Peak Hour Traffic Volumes

Intersection

Lane Configuration

FIGURE 11 | YEAR 2023 BUILD CAPACITY ANALYSIS

7. Turn Lane Analysis

7.1. Right Turn Lanes

Turn lanes or deceleration lanes, allow vehicles exiting a roadway to slow to a reduced speed to execute a turn without impeding the main flow of traffic.

The City of Scottsdale 2018 *Design Standards & Policies Manual* Section 5.3.206 deceleration lane criteria is analyzed below for the study intersections where traffic volumes were available.

Right Turn Lane
Deceleration lanes are required at all new driveways on major arterials and at new commercial/retail driveways on minor arterials. To determine the need for a deceleration lane on streets classified as a minor arterial or collector, use the following criteria:

- At least 5,000 vehicle per day are expected to be using the street.
- The roadway's 85th percentile speed limit is at least 35 mph.
- At least 30 vehicles will make right-turns into the driveway during a 1-hour period.

Using the above criteria, a right turn lane would be required at the following study intersections:

- Scottsdale Road and Coolidge Street (2) – northbound right turn lane. There is an existing 150 foot right turn lane.
- Scottsdale Road and Fashion Square Drive (3) – northbound right turn lane. Although a right turn lane is required here, this project does not have access to the property to construct the required turn lane.

7.2. Queue Analysis

The 95th percentile queue reported by Synchro was used to calculate the required storage length for each turn lane. See **Table 10** for the turn bay storage for each required turn lane.

Table 10 – Turn Bay Storage Lengths

Intersection	Movement	Existing Storage	Existing Storage Length	95th Percentile Queue (Ft)		Storage Length
				AM Peak Hour	PM Peak Hour	
Scottsdale Road and Coolidge Street (2)	WB Right	Travel Lane	-	8	5	-
	NB Right	Turn Lane	150'	-	-	150'
Scottsdlale Road and Fashion Square Drive (3)	EB Left	Travel Lane	50'	11	52	-
	EB Thru-Right	Travel Lane	-	-	-	-
	WB Left	-	-	149	118	150'
	WB Thru-Right	Travel Lane	-	-	-	-
	NB Left	Turn Lane	150'	22	23	150'
	NB Thru-Right	Turn Lane	-	-	-	-
	SB Left	Turn Lane	140'	4	31	140'
	SB Right	Turn Lane	75'	0	6	75'

Scottsdale Road and Coolidge Street (2)

Per discussion with the City the existing northbound right turn lane at the intersection of Scottsdale Road and Coolidge (2) can be shorted. Based on the queue analysis since there is no queue created for this movement the right turn lane could be shortened to the minimum 100'.

Scottsdale Road and Fashion Square Drive (3)

Per the queue analysis it appears that the existing northbound left, southbound left and southbound right turn lanes are sufficient to store the queue that would possibly be there. The westbound left would be constructed as part of this development.

The results for the above calculated queue for the westbound left turn at the intersection of Scottsdale Road and Fashion Square Drive (3) was calculated assuming the existing signal timing, with eastbound and westbound movements occurring during a single permitted phase. If the signal timing is adjusted to allow for a protected/permitted left-turn phase for the eastbound and westbound traffic, the 95th percentile queue is 69 feet and 62 feet, for the AM and PM peak hour, respectively. This would result in the westbound left-turn storage length only needing to be approximately 75 feet.

8. Recommendations & Conclusions

The proposed Hazel and Azure development is located on the NEC of Fashion Square Drive and Scottsdale Road in Scottsdale, Arizona. The site will be comprised of two buildings. Building A will be located on the north side of Fashion Square Drive and will consist of 360 residential units and 20,000 square feet of retail. Building B will be located on the south side of Fashion Square Drive and will consist of 174 residential units and 1,200 square feet of office space. The proposed development is anticipated to be completed by the year 2023.

In summary and as included in the discussion and analyses throughout this report, the following are the recommended improvements:

- **Scottsdale Road and Fashion Square Drive (3)**
  Buildout of east leg of intersection to provide a dedicated left turn lane and a shared through-right turn lane.

- **Fashion Square Drive and Driveway A (8)**
  Buildout of a full access driveway

- **Fashion Square Drive and Driveway B (9)**
  Buildout of a full access driveway

- **Coolidge Street and Driveway A (10)**
  Buildout of a full access driveway

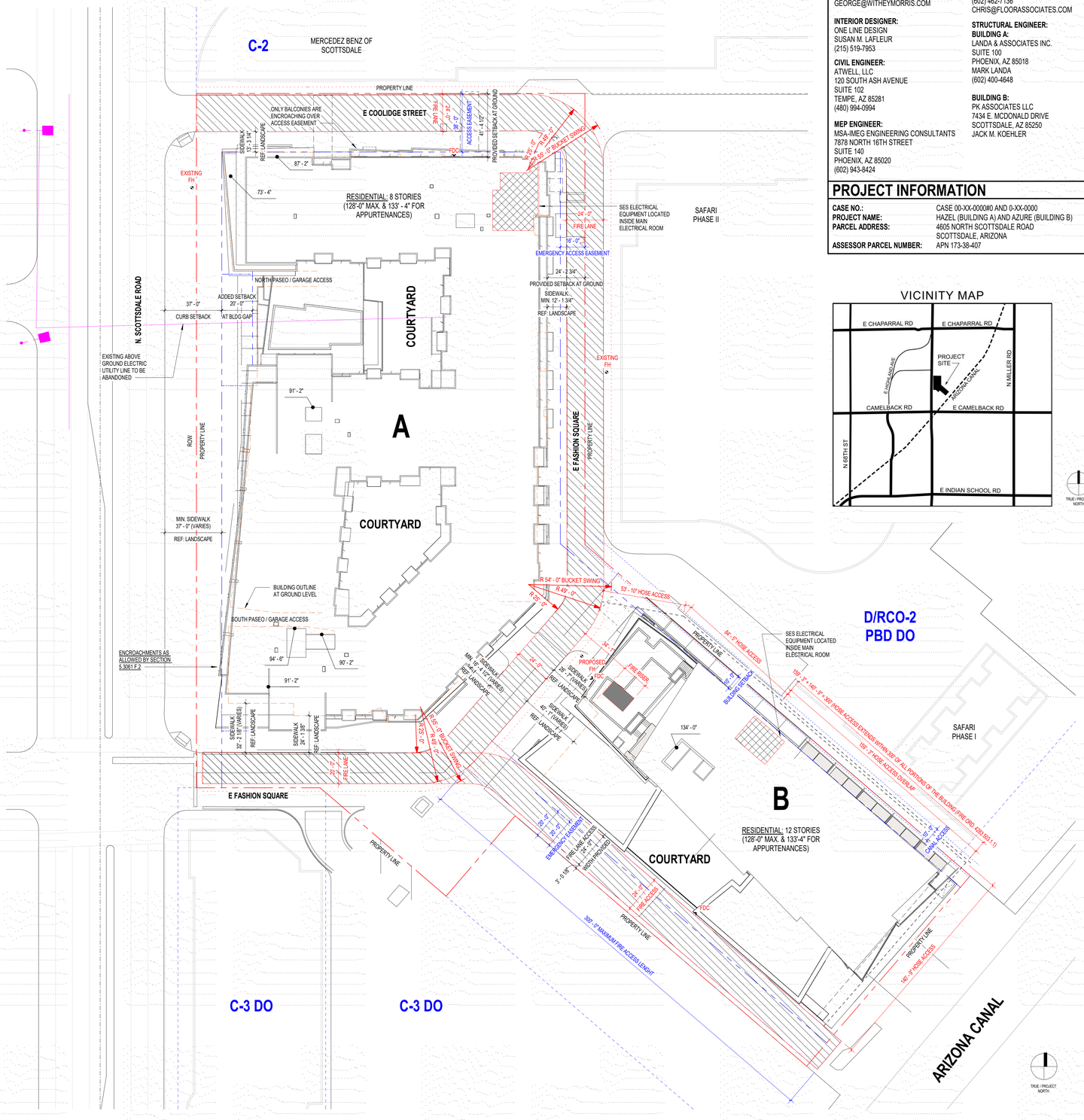
Appendix A – Proposed Site Plan

DSPM 5-3.123 D. FIRE DEPT NOTES

1. FIRE LANE SURFACE WILL SUPPORT 83,000 LBS. GVW TO INCLUDE ANY BRIDGE/CULVERT CROSSING (DS&PM, 2-1.303(3))"

2. KEY SWITCH/PRE-EMPTION SENSOR REQUIRED FOR COMMERCIAL/MULTI-FAMILY/GATED COMMUNITIES (FIRE ORD. 4283, 503.6.1).

3. UNOBSTRUCTED VERTICAL CLEARANCE MINIMUM 13'6" (FIRE ORD. 4283, 503.2.1)



1 OVERALL SITE PLAN
1" = 30'-0"

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ATWELL, LLC
120 SOUTH ASH AVENUE
SUITE 102
TEMPE, AZ 85281
(480) 994-0994

MEP ENGINEER:
MSA-IMEG ENGINEERING CONSULTANTS
7878 NORTH 16TH STREET
SUITE 140
PHOENIX, AZ 85020
(602) 943-8424

ARCHITECT:
CALLISONRTKL INC.
1717 PACIFIC AVENUE
DALLAS, TEXAS 75201
CRISTI LANDRUM
(214) 468-7692
CRISTI.LANDRUM@CRTKL.COM

LANDSCAPE ARCHITECT:
FLOOR ASSOCIATES
1425 N. 1ST STREET
SUITE 200
PHOENIX, AZ 85020
CHRISTOPHER BROWN
(602) 462-7136
CHRIS@FLOORASSOCIATES.COM

STRUCTURAL ENGINEER:
BUILDING A:
LANDA & ASSOCIATES INC.
SUITE 100
PHOENIX, AZ 85018
MARK LANDA
(602) 400-4648

BUILDING B:
PK ASSOCIATES LLC
7434 E. MCDONALD DRIVE
SCOTTSDALE, AZ 85250
JACK M. KOEHLER

PROJECT INFORMATION

CASE NO.:	CASE 00-XX-0000#0 AND 0-XX-0000
PROJECT NAME:	HAZEL (BUILDING A) AND AZURE (BUILDING B)
PARCEL ADDRESS:	4605 NORTH SCOTTSDALE ROAD SCOTTSDALE, ARIZONA
ASSESSOR PARCEL NUMBER:	APN 173-38-407

VICINITY MAP

PROJECT DATA SUMMARY

ZONING CLASSIFICATION:	EXISTING: D / RCO-2 PBD DO DOWNTOWN, REGIONAL COMMERCIAL OFFICE TYPE-2, PLANNED BLOCK DEVELOPMENT, DOWNTOWN OVERLAY.
SITE AREA REQUIRED:	NONE REQ'D
PROJECT SITE PROPOSED:	162,891 SF (3.739 ACRES) (NET + GROSS - NO PUBLIC STREETS)
ALLOWABLE MAX. AREA:	617,356 GSF (A + B) (W/O STRUCTURED PARKING)
TOTAL BUILDING AREA:	
BUILDING A:	374,832 GSF (W/O STRUCTURED PARKING)
BUILDING A:	594,179 GSF (WITH STRUCTURED PARKING)
BUILDING B:	242,171 GSF (W/O STRUCTURED PARKING)
BUILDING B:	340,251 GSF (WITH STRUCTURED PARKING)
BUILDING A + B:	617,003 GSF (W/O STRUCTURED PARKING)
BUILDING A + B:	934,430 GSF (WITH STRUCTURED PARKING)
GFAR PROPOSED:	3.788 (W/O STRUCTURED PARKING)
ALLOWABLE GFAR:	3.79
TOTAL UNITS PROPOSED:	
BUILDING A:	362 UNITS
BUILDING B:	170 UNITS
BUILDING A + B:	532 UNITS
DENSITY PROPOSED:	142 UNITS / ACRE
ALLOWABLE DENSITY:	152 DWELLING UNITS PER GROSS ACRE (562 DWELLING UNITS) OR 749 UNITS TOTAL, WHICHEVER IS LESS

*SEE ENLARGED ARCHITECTURAL SITE PLAN DRAWINGS FOR ITEMIZED UNIT COUNT, AND DETAILED AREA SCHEDULE FOR EACH BUILDING

BUILDING FORM

BUILDING HEIGHT
ALLOWABLE: 128' - 0" MAXIMUM ROOF HEIGHT; 133' - 4" MAXIMUM HEIGHT FOR APPURTENANCES

PROPOSED BUILDING HEIGHTS:
BUILDING A: 83' - 2" FROM GRADE TO ROOF; 93' - 2" TOP OF APPURTENANCES PROPOSED
BUILDING B: 127' - 6" FROM GRADE TO ROOF; 133' - 2" TOP OF APPURTENANCES PROPOSED

BUILDING SETBACKS*

WEST (**SCOTTSDALE ROAD**):	37' - 0" FROM BACK OF CURB REQ'D 37' - 1" PROVIDED
ADDITIONAL SETBACK:	20' - 0" ADDITIONAL SETBACK FOR LONG WALLS 1/4 BUILDING LENGHT = 93' - 7" 20' - 0" PROVIDED FOR 80' - 10" PROPOSED GAP
NORTH (**E COOLIDGE STREET**):	INTERIOR SETBACK (PRIVATE STREET) - NONE REQ'D 38' - 0" ACCESS EASEMENT PROVIDED
EAST (**E FASHION SQUARE**):	INTERIOR SETBACK (PRIVATE STREET) - NONE REQ'D 16' - 0" EMERGENCY EASEMENT PROVIDED
SOUTH (**E FASHION SQUARE**):	INTERIOR SETBACK (PRIVATE STREET) - NONE REQ'D

* SETBACKS ARE MEASURED FROM PLANNED CURB
**AS LONG AS CLEAR PEDESTRIAN PATH IS MAINTAINED PER DSPM, OTHER ELEMENTS MAY ENCROACH INTO SETBACK (PATIOS, BALCONIES, AWNINGS, STAIRS, ELEVATORS, ETC).

BUILDING STEPBACKS:

WEST (**SCOTTSDALE ROAD**):	BEGIN 5:1 STEPBACK PLANE AT 45' - 0" HEIGHT
STEPBACKS PROPOSED:	ENCROACHMENTS NOTED AS ALLOWED BY SECTION 5.3061 F.2*
SOUTH EAST (**ARIZONA CANAL**):	BEGIN 5:1 STEPBACK PLANE AT 45' - 0" HEIGHT NO ENCROACHMENTS

*5.3061 F.2 | MAX 15' HORIZONTAL ENCROACHMENT ON STEPBACK FOR 25% OF FACADE

BUILDING FORM, CONT.

MAXIMUM WALL LENGTH:	200' - 0" MAXIMUM WALL LENGTH WITHOUT A BREAK
WALL LENGTH PROVIDED:	128' - 8" LONGEST UNINTERRUPTED WALL LENGTH
ALLOWABLE BUILDING LENGTH:	230' - 0" MAXIMUM BUILDING LENGTH IN ANY HORIZONTAL DIMENSION (SECTION 5.3061 D)
BUILDING LENGTH:	128' - 8" LONGEST BUILDING LENGTH PROPOSED

PARKING

REQUIRED VEHICULAR PARKING — **784 TOTAL SPACES REQ'D (BLDG A + B)**

BUILDING A
RESIDENTIAL REQUIRED: = **479 RESI. SPACES**
- STUDIO OR 1-BED: 1 PER UNIT (1*245 UNITS) = 245 SPACES
- 2 OR 3 BED+: 2 PER UNIT (2*117 UNITS) = 234 SPACES

NON RESIDENTIAL AREA REQUIRED: = **39 COMMERCIAL SPACES**
- COMMERCIAL AREA: 1 SPACE / 350SF (13,650SF) = 39 SPACES

518 SPACES REQ'D FOR BUILDING A

BUILDING B
RESIDENTIAL REQ'D: = **263 RESI. SPACES**
- STUDIO/ 1-BED: 1 PER UNIT (1*77 UNITS) = 77 SPACES
- 2 OR 3 BED+: 2 PER UNIT (2*93 UNITS) = 186 SPACES

RETAIL REQ'D : = **3 RETAIL SPACES**
- RETAIL: 1 SPACE / 350SF (960SF) = 3 SPACES

266 SPACES REQ'D FOR BUILDING B

ACCESSIBLE PARKING REQ'D:
- MINIMUM 4% OF THE PROVIDED PARKING (SEC. 9.105)*
- 2% ABSOLUTE MINIMUM ACCESSIBLE PARKING REQ'D PER ADA

*REDUCTIONS MAY APPLY - THE DEVELOPMENT PROVIDES OVER (500) PARKING SPACES

PROVIDED VEHICULAR PARKING — **837 SPACES (809 STD / 28 ACC)**

BUILDING A
- **527** RESIDENTIAL AT LEVELS L1, B1, B2, B3.
  20 ACC. REQ'D: 3 VAN ACCESSIBLE + 17 ADA STANDARD
- **40** RETAIL / RESTAURANT AT LEVEL 1 (NOT SECURED)
  2 ACC. REQ'D: 1 VAN AND 1 ADA STD AT LEVEL 1

567 SPACES PROVIDED AT BUILDING A

BUILDING B
- **267** RESIDENTIAL AT LEVELS B1 - B3
- **3** RETAIL / RESTAURANT AT LEVEL B1
  6 ACC. REQ'D: 2 VAN ACCESSIBLE + 4 ADA STANDARD

270 SPACES PROVIDED AT BUILDING B

REQUIRED BICYCLE PARKING — **52 (BLDG A) + 27 (BLDG B) = 79 SPACES REQ'D**
- 1 BICYCLE PARKING SPACE PER 10 REQ'D VEHICULAR PARKING SPACES
- 2 BICYCLE PARKING SPACES MINIMUM
- NO MORE THAN 100 SPACES SHALL BE REQ'D

BUILDING A
- **518** VEHICULAR PARKING SPACES / 10 = **51.8** BICYCLE SPACES REQ'D

BUILDING B
- **270** VEHICULAR PARKING SPACES / 10 = **27** BICYCLE SPACES REQ'D

PROVIDED BICYCLE PARKING — **79 SPACES**
- 52 SPACES (BUILDING A) AND 27 SPACES (BUILDING B) AT BELOW GRADE GARAGE

CODE REVIEW

AUTHORITY HAVING JURISDICTION:	CITY OF SCOTTSDALE, ARIZONA
CODE:	2015 INTERNATIONAL BUILDING CODE
CONSTRUCTION TYPE:	BUILDING A: **IB** & BUILDING B: **IA**
OCCUPANCY:	**MIXED-USE:** R-2 / A-3 / A-3 / A-4 / B / M / S-2
SPRINKLERS:	YES, PER NFPA 13

NOTE: REFER TO ALTA AND CIVIL ENGINEERING SHEETS FOR EASEMENTS/TRACTS.

2 CONTEXT AERIAL
1" = 200'-0"

CALLISONRTKL

CallisonRTKL Inc.
1717 PACIFIC AVENUE
DALLAS,TX 75201
Tel: 1.214.468.7600
Fax: 1.214.468.7601

Consultant

CAMELBACK

4605 N SCOTTSDALE ROAD
SCOTTSDALE, ARIZONA

CD PROGRESS SET

Owner

7OM LIVING

Issue Drawing Log

REV #	DATE (YYYY-MMDD)	ISSUE NAME

Seal

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION

Sheet Identification

OVERALL SITE PLAN

A-100

12/17/2021
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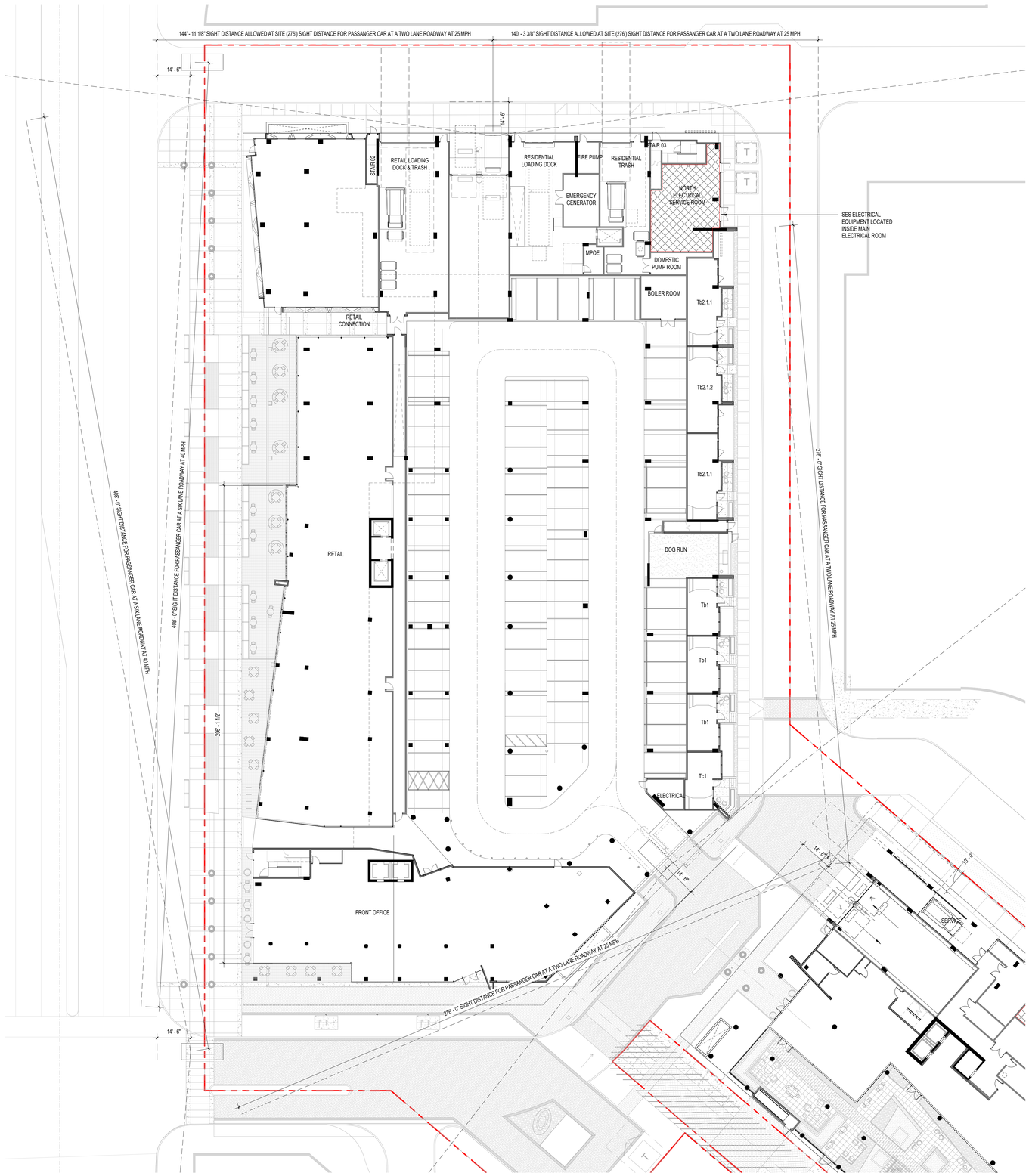


1 ARCHITECTURAL SITE PLAN
1" = 20'-0"

SITE PLAN LEGEND

REFER TO CIVIL & LANDSCAPE DWGS FOR ADDITIONAL INFO

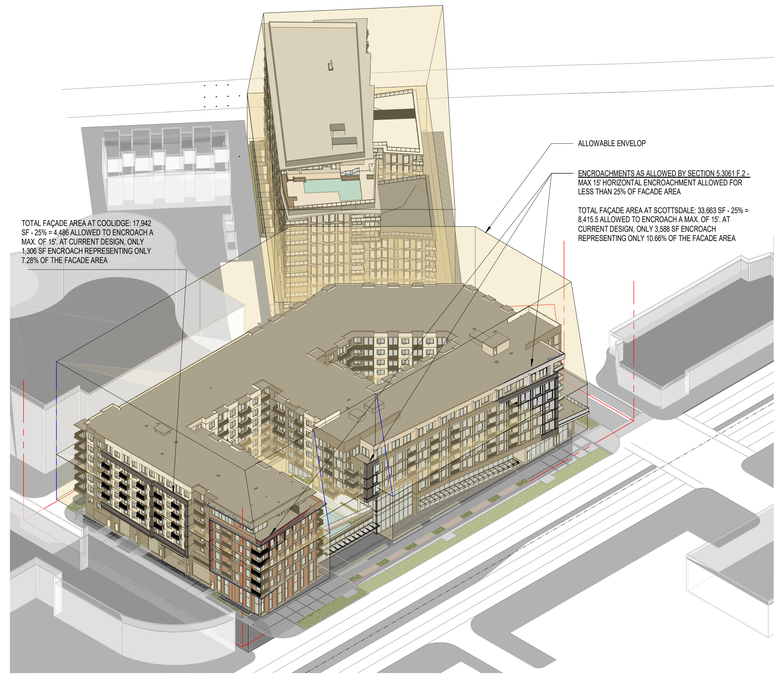
- GAS METER
- FH FIRE HYDRANT
- PEDESTRIAN LIGHT POLE
- STREET LIGHT FIXTURE
- BFP BACKFLOW PREVENTER
- ACCESSIBLE ROUTE AND ENTRANCE
- PDE PRIVATE DEVELOPMENT EASEMENT
- FDC FIRE DEPARTMENT CONNECTION
- OVERHANG ABOVE
- CENTERLINE OF STREET
- PROPERTY LINE
- FUTURE DEVELOPEMENT
- WALL / STRUCTURE
- FIRE LANE

CAR PARKING - SUMMARY

TAG	TYPE	COUNT
LEVEL 01 (1279.00)		
CAR	ADA (9' X18' + 5' ACCESSIBLE AISLE)	1
VAN	ADA VAN ACCESSIBLE (9' x 18', 8' AISLE)	2
STD	STANDARD (9' X18')	64
LEVEL 01 (1279.00)		67
LEVEL B1		
CAR	ADA (9' X18' + 5' ACCESSIBLE AISLE)	1
VAN	ADA VAN ACCESSIBLE (9' x 18', 8' AISLE)	1
STD	STANDARD (9' X18')	160
LEVEL B1		162
LEVEL B2		
CAR	ADA (9' X18' + 5' ACCESSIBLE AISLE)	2
STD	STANDARD (9' X18')	171
LEVEL B2		173
LEVEL B3		
CAR	ADA (9' X18' + 5' ACCESSIBLE AISLE)	3
STD	STANDARD (9' X18')	172
LEVEL B3		175
TOTAL SPACES IN THE PROJECT: 577		577

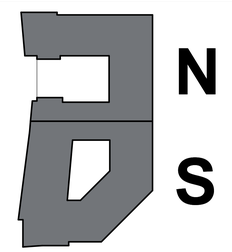
BIKE PARKING - SUMMARY

TAG	TYPE	COUNT
LEVEL B2		
B	BICYCLE (2' x 6')	45
LEVEL B2		45
LEVEL B3		
B	BICYCLE (2' x 6')	7
LEVEL B3		7
TOTAL SPACES IN THE PROJECT: 52		52



2 HAZEL - ALLOWABLE BUILDING ENVELOP

KEY PLAN



N TRUE NORTH
N PLAN NORTH

CALLISONRTKL

CallisonRTKL Inc.
1717 PACIFIC AVENUE
DALLAS,TX 75201
Tel: 1.214.468.7600
Fax: 1.214.468.7601

Consultant

Owner

LOM LIVING

Issue Drawing Log

REV #	DATE (YYYY-MMDD)	ISSUE NAME

Seal

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION

Sheet Identification

ARCHITECTURAL SITE PLAN

A-101

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CAMELBACK

HAZEL

4605 N SCOTTSDALE ROAD
SCOTTSDALE, ARIZONA

CD PROGRESS SET

Appendix B – Parcel Information

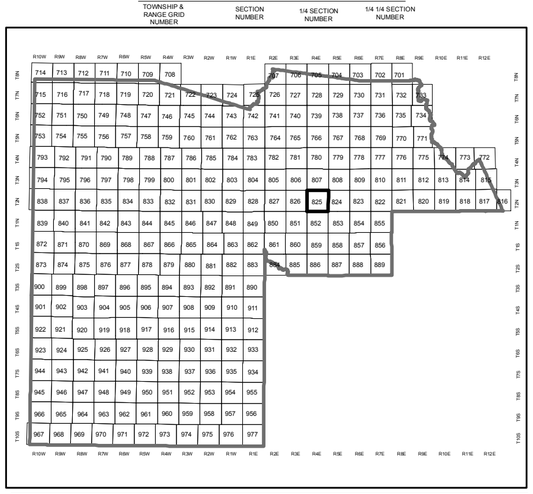
MARICOPA COUNTY

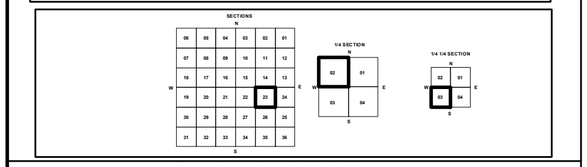
STATE OF ARIZONA

PT. SECTION 23 T02N R04E

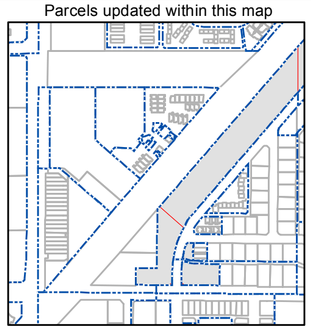
825 - 23 - 02 - 03

TOWNSHIP & RANGE GRID NUMBER | SECTION NUMBER | 1/4 SECTION NUMBER | 1/4 1/4 SECTION NUMBER





Parcels updated within this map



0 45 90 180 270 360 Feet

N

MARICOPA COUNTY
ASSESSOR'S OFFICE
301 W. Jefferson Street
Phoenix, AZ 85003
Date: 09/12/2019

https://mcassessor.maricopa.gov

LEGEND: Parcels, Subdivisions, Lots, Sections, Section Corners, Centerlines

Disclaimer - Indemnification

CAUTION! USERS SHOULD INDEPENDENTLY RESEARCH AND VERIFY INFORMATION WITHIN THIS DATASET OR MAP BEFORE RELYING ON IT.

The Assessor's Office has compiled information within this dataset or map that it uses to identify, classify, and value real and personal property. Please contact the Assessor's Office at 602 506-3406 if you believe any information is incomplete, out-of date, or incorrect so that appropriate corrections can be addressed. Please note that a statutory process is also available to correct errors pursuant to Arizona Revised Statutes 42-16254.

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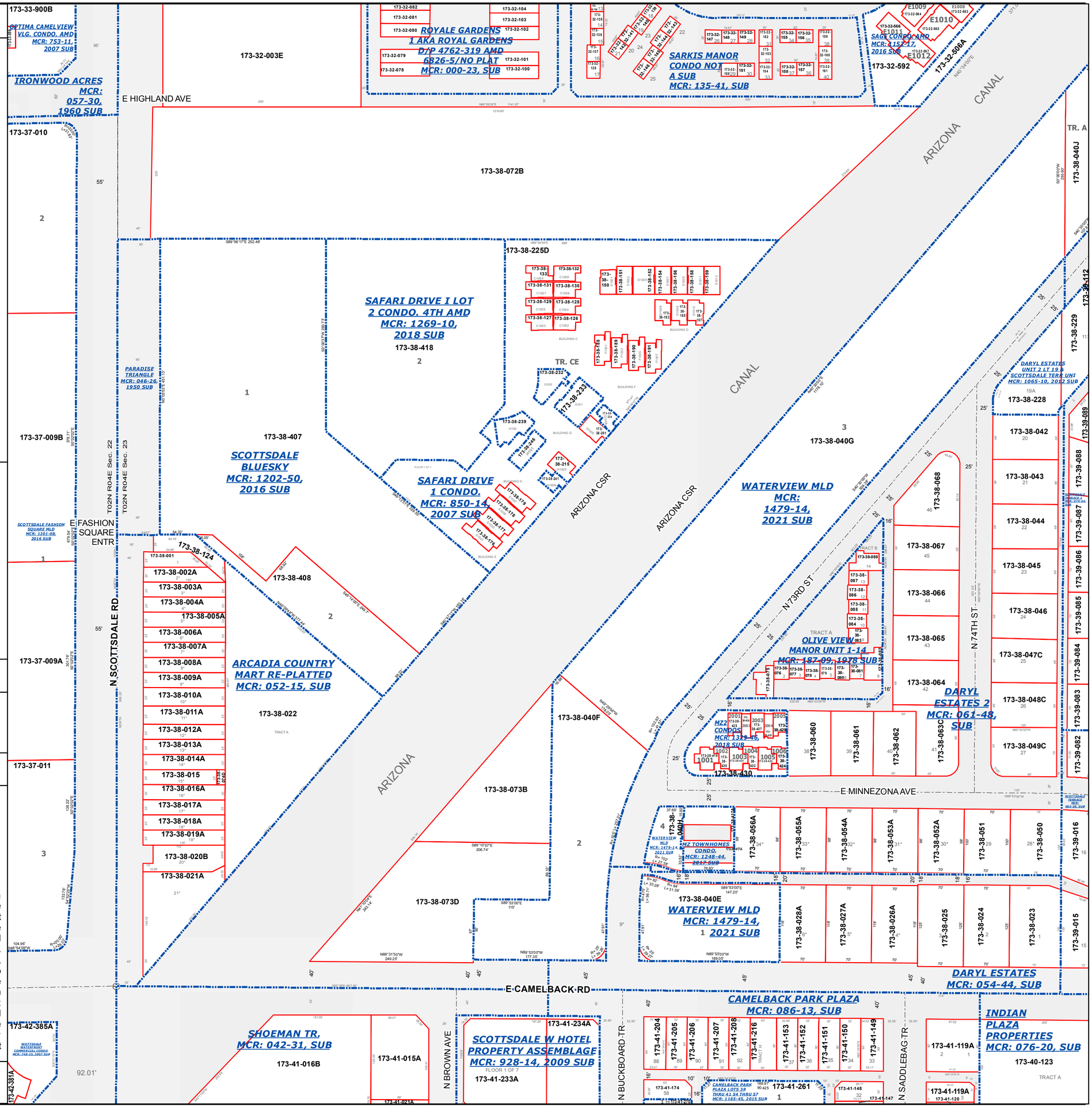

173-38-407 Land Parcel

This is a Land parcel located at 4605 N SCOTTSDALE RD SCOTTSDALE 85251. The current owner is ZT SCOTTSDALE OWNER LLC. It is located in the SCOTTSDALE BLUESKY subdivision, and MCR 120250. Its current year full cash value is $14,670,100.

MAPS | PICTOMETRY | $ VIEW/PAY TAX BILL | DEED

OWNER | VALUATIONS | MAP FERRET | SIMILAR PARCELS

PROPERTY INFORMATION

4605 N SCOTTSDALE RD SCOTTSDALE 85251

MCR #	120250
Description	SCOTTSDALE BLUESKY MCR 1202-50
Long/Lat	|
Lot Size	163,002 sq ft.
Zoning	D/RCO-2
Lot #	1
High School District	SCOTTSDALE UNIFIED #48
Elementary School District	SCOTTSDALE UNIFIED SCHOOL DISTRICT
Local Jurisdiction	SCOTTSDALE
S/T/R	23 2N 4E
Market Area/Neighborhood	00/
Subdivision (2 Parcels)	SCOTTSDALE BLUESKY

OWNER INFORMATION

ZT SCOTTSDALE OWNER LLC

Mailing Address	1909 WOODALL RODGERS FWY STE 400, DALLAS, TX 75201
Deed Number	210052186
Last Deed Date	01/15/2021

Sale Date	n/a
Sale Price	n/a

VALUATION INFORMATION

We provide valuation information for the past 5 years. For mobile display, we only show 1 year of valuation information. Should you need more data, please look at our data sales.

The Valuation Information displayed below may not reflect the taxable value used on the tax bill due to any special valuation relief program. CLICK HERE TO PAY YOUR TAXES OR VIEW YOUR TAX BILL

Tax Year	2022	2021	2020	2019	2018
Full Cash Value	$14,670,100	$14,670,100	$14,613,900	$13,741,900	$11,713,400
Limited Value	$5,834,321	$5,556,496	$5,291,901	$5,039,906	$4,799,910
Legal Class	2.R	2.R	2.R	2.R	2.R
Description	AG / VACANT LAND / NON-PROFIT R/P	AG / VACANT LAND / NON-PROFIT R/P	AG / VACANT LAND / NON-PROFIT R/P	AG / VACANT LAND / NON-PROFIT R/P	AG / VACANT LAND / NON-PROFIT R/P
Assessment Ratio	15.0%	15.0%	15.0%	15.0%	15.0%
Assessed LPV	$875,148	$833,474	$793,785	$755,986	$719,987
Property Use Code	0021	0021	0021	0021	0021
PU Description	Vacant Commercial Land	Vacant Commercial Land	Vacant Commercial Land	Vacant Commercial Land	Vacant Commercial Land
Tax Area Code	481400	481400	481400	481400	481400
Valuation Source	Notice	Notice	Notice	Notice	Notice

MAP FERRET MAPS

Mapferret maps, also known as MapId maps, pdf maps, or output maps are now available here without having to search.

- Parcel Maps (1)
- Subdivision Maps (1)
- MCR Maps (1)
- Book/Map Maps (4)

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By using this website, you acknowledge having read the above and waive any right you may have to claim against Maricopa County, its officers, employees, and contractors arising out of my reliance on or the use of the information provided on this website.

173-38-408 Land Parcel

This is a Land parcel located at 4575 N SCOTTSDALE RD SCOTTSDALE 85251. The current owner is EMERALD EQUITIES L L C. It is located in the SCOTTSDALE BLUESKY subdivision, and MCR 120250. Its current year full cash value is $2,114,500.

MAPS | PICTOMETRY | $ VIEW/PAY TAX BILL | DEED
OWNER | VALUATIONS | MAP FERRET | SIMILAR PARCELS

PROPERTY INFORMATION

4575 N SCOTTSDALE RD SCOTTSDALE 85251

MCR #	120250
Description	SCOTTSDALE BLUESKY MCR 1202-50
Lat/Long	33.503803 | -111.925032
Lot Size	23,495 sq ft.
Zoning	D/RCO-2
Lot #	2
High School District	SCOTTSDALE UNIFIED #48
Elementary School District	SCOTTSDALE UNIFIED SCHOOL DISTRICT
Local Jurisdiction	SCOTTSDALE
S/T/R	23 2N 4E
Market Area/Neighborhood	00/
Subdivision (2 Parcels)	SCOTTSDALE BLUESKY

OWNER INFORMATION

EMERALD EQUITIES L L C

Mailing Address	4501 N SCOTTSDALE RD STE 201, SCOTTSDALE, AZ 85251
Deed Number	201035464
Last Deed Date	10/27/2020
Sale Date	n/a
Sale Price	n/a

VALUATION INFORMATION

We provide valuation information for the past 5 years. For mobile display, we only show 1 year of valuation information. Should you need more data, please look at our data sales.

The Valuation Information displayed below may not reflect the taxable value used on the tax bill due to any special valuation relief program. CLICK HERE TO PAY YOUR TAXES OR VIEW YOUR TAX BILL

Tax Year	2022	2021	2020	2019	2018
Full Cash Value	$2,114,500	$2,114,500	$2,035,300	$1,872,300	$1,676,200
Limited Value	$931,534	$887,175	$844,929	$804,694	$766,375
Legal Class	2.R	2.R	2.R	2.R	2.R
Description	AG / VACANT LAND / NON-PROFIT R/P	AG / VACANT LAND / NON-PROFIT R/P	AG / VACANT LAND / NON-PROFIT R/P	AG / VACANT LAND / NON-PROFIT R/P	AG / VACANT LAND / NON-PROFIT R/P
Assessment Ratio	15.0%	15.0%	15.0%	15.0%	15.0%
Assessed LPV	$139,730	$133,076	$126,739	$120,704	$114,956
Property Use Code	0021	0021	0021	0021	0021
PU Description	Vacant Commercial Land	Vacant Commercial Land	Vacant Commercial Land	Vacant Commercial Land	Vacant Commercial Land
Tax Area Code	481400	481400	481400	481400	481400
Valuation Source	Notice	Notice	Notice	Notice	Notice

MAP FERRET MAPS

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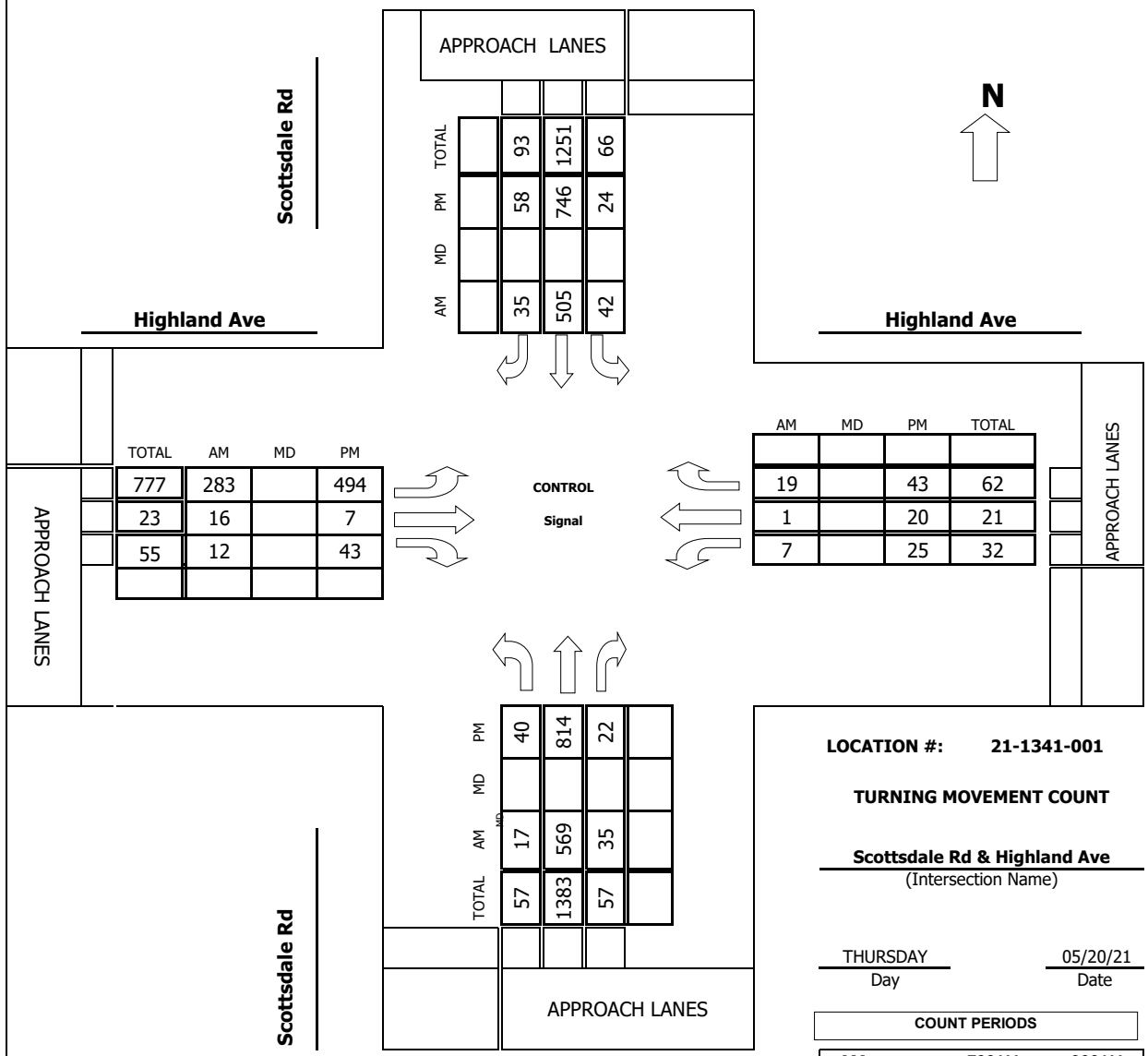
Appendix C – Traffic Count Data

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 21-1341-001

TMC SUMMARY OF Scottsdale Rd & Highland Ave



LOCATION #: 21-1341-001

TURNING MOVEMENT COUNT

Scottsdale Rd & Highland Ave
(Intersection Name)

THURSDAY (Day) 05/20/21 (Date)

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

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 430 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Scottsdale Rd	DATE:	05/20/21	LOCATION:	Scottsdale
E-W STREET:	Highland Ave	DAY:	THURSDAY	PROJECT#	21-1341-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	3	0	2	1	0	1	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	4	105	7	6	81	10	27	2	2	1	0	1	246
7:15 AM	2	99	3	2	87	5	59	1	2	4	1	3	268
7:30 AM	3	126	6	3	80	10	49	2	3	0	0	1	283
7:45 AM	11	140	5	1	136	7	83	2	3	1	1	2	392
8:00 AM	2	150	7	8	127	6	73	2	3	0	0	1	379
8:15 AM	4	153	7	8	110	10	75	5	1	5	0	8	386
8:30 AM	8	154	11	18	116	6	60	4	1	0	1	3	382
8:45 AM	3	112	10	8	152	13	75	5	7	2	0	7	394
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	37	1039	56	54	889	67	501	23	22	13	3	26	2730
Approach %	3.27	91.78	4.95	5.35	88.02	6.63	91.76	4.21	4.03	30.95	7.14	61.90	
App/Depart	1132	/	1566	1010	/	924	546	/	133	42	/	107	

AM Peak Hr Begins at: 800 AM

PEAK													
Volumes	17	569	35	42	505	35	283	16	12	7	1	19	1541
Approach %	2.74	91.63	5.64	7.22	86.77	6.01	91.00	5.14	3.86	25.93	3.70	70.37	
PEAK HR. FACTOR:		0.897			0.841			0.894			0.519		0.978

CONTROL: Signal
COMMENT 1:
GPS: 33.505990, -111.926092

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Scottsdale Rd 0	DATE:	05/20/21	LOCATION:	Scottsdale
E-W STREET:	Highland Ave	DAY:	THURSDAY	PROJECT#	21-1341-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	3	0	2	1	0	1	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	10	194	7	7	164	19	147	6	9	11	4	17	595
4:15 PM	9	237	5	5	193	14	107	0	11	5	5	17	608
4:30 PM	11	179	3	5	188	16	110	3	8	3	1	10	537
4:45 PM	10	185	6	9	190	16	108	2	13	7	4	14	564
5:00 PM	3	211	3	4	179	17	147	0	10	7	10	9	600
5:15 PM	16	239	10	6	189	9	129	2	12	8	5	10	635
5:30 PM	9	182	3	9	173	11	142	2	11	8	2	8	
5:45 PM	11	190	6	7	223	13	111	2	14	5	3	10	595
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	79	1617	43	52	1499	115	1001	17	88	54	34	95	4694
Approach %	4.54	92.98	2.47	3.12	89.98	6.90	90.51	1.54	7.96	29.51	18.58	51.91	
App/Depart	1739	/	2713	1666	/	1641	1106	/	112	183	/	228	

PM Peak Hr Begins at: 430 PM

PEAK													
Volumes	40	814	22	24	746	58	494	7	43	25	20	43	2336
Approach %	4.57	92.92	2.51	2.90	90.10	7.00	90.81	1.29	7.90	28.41	22.73	48.86	
PEAK HR. FACTOR:		0.826			0.963			0.866			0.846		0.920

CONTROL:	Signal
COMMENT 1:	0
GPS:	33.505990, -111.926092

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

Pedestrian & Bicycle Study

N-S STREET: Scottsdale Rd
E-W STREET: Highland Ave

Date: 05/20/21
Day: THURSDAY

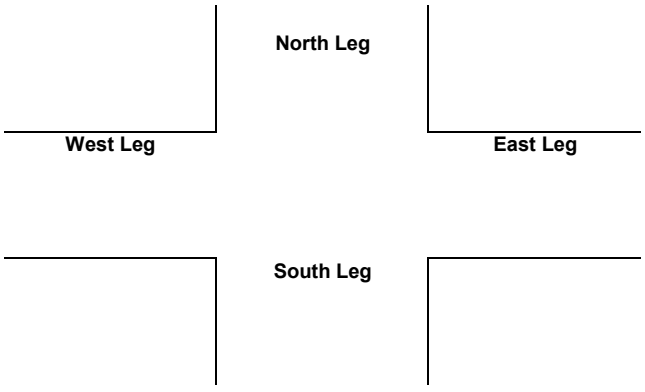
City: Scottsdale
Project #: 21-1341-001

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	1	4	2
7:15 AM	0	1	1	0
7:30 AM	0	0	1	3
7:45 AM	0	0	2	4
8:00 AM	0	0	8	2
8:15 AM	0	1	3	2
8:30 AM	0	2	0	4
8:45 AM	0	1	2	5
TOTAL	**0**	**6**	**21**	**22**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	1
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	1	0	0	0
TOTAL	**1**	**0**	**0**	**1**

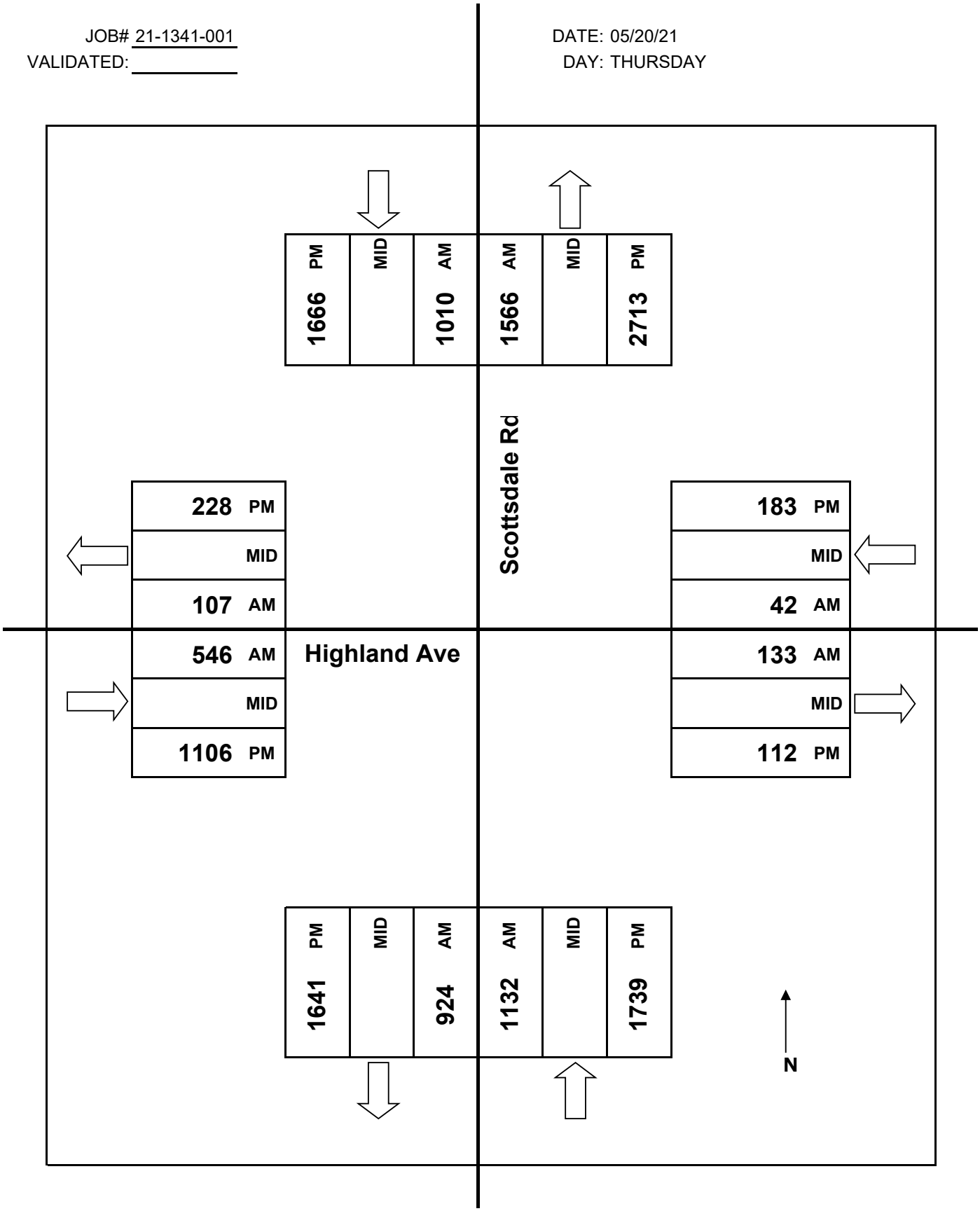
	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	1	1	1
4:15 PM	1	1	2	1
4:30 PM	0	2	4	3
4:45 PM	0	0	3	1
5:00 PM	0	2	3	0
5:15 PM	0	3	8	5
5:30 PM	0	0	2	0
5:45 PM	0	0	9	3
TOTAL	**1**	**9**	**32**	**14**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	2	0
4:15 PM	0	0	1	1
4:30 PM	0	0	0	1
4:45 PM	0	0	0	0
5:00 PM	0	0	0	1
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**0**	**0**	**3**	**3**



JOB# 21-1341-001
VALIDATED: _____

DATE: 05/20/21
DAY: THURSDAY

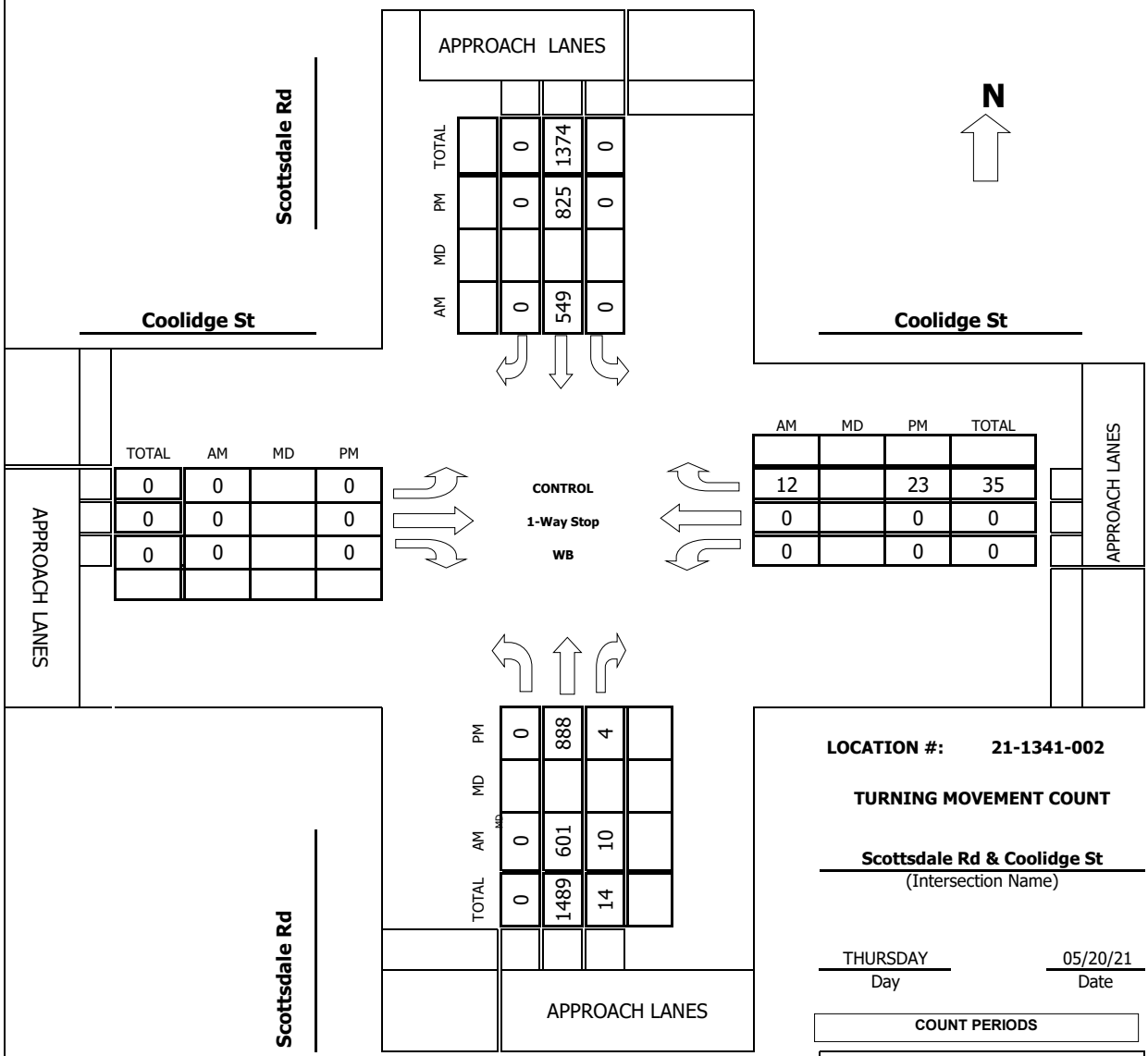


Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 21-1341-002

TMC SUMMARY OF Scottsdale Rd & Coolidge St



LOCATION #: 21-1341-002

TURNING MOVEMENT COUNT

Scottsdale Rd & Coolidge St
(Intersection Name)

THURSDAY (Day) 05/20/21 (Date)

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

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 430 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Scottsdale Rd	DATE:	05/20/21	LOCATION:	Scottsdale
E-W STREET:	Coolidge St	DAY:	THURSDAY	PROJECT#	21-1341-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	1	0	3	0	0	0	0	0	0	1	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	107	2	0	83	0	0	0	0	0	0	1	193
7:15 AM	0	125	3	0	88	0	0	0	0	0	0	1	217
7:30 AM	0	153	1	0	114	0	0	0	0	0	0	1	269
7:45 AM	0	172	3	0	136	0	0	0	0	0	0	1	
8:00 AM	0	155	4	0	129	0	0	0	0	0	0	2	290
8:15 AM	0	169	2	0	109	0	0	0	0	0	0	3	283
8:30 AM	0	145	1	0	149	0	0	0	0	0	0	4	299
8:45 AM	0	132	3	0	162	0	0	0	0	0	0	3	300
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	1158	19	0	970	0	0	0	0	0	0	16	2163
Approach %	0.00	98.39	1.61	0.00	100.00	0.00	####	####	####	0.00	0.00	100.00	
App/Depart	1177	/	1174	970	/	970	0	/	19	16	/	0	

AM Peak Hr Begins at: 800 AM

PEAK													
Volumes	0	601	10	0	549	0	0	0	0	0	0	12	1172
Approach %	0.00	98.36	1.64	0.00	100.00	0.00	####	####	####	0.00	0.00	100.00	
PEAK HR. FACTOR:		0.893			0.847			0.000			0.750		0.977

CONTROL:	1-Way Stop (WB)
COMMENT 1:	
GPS:	33.505363, -111.926109

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Scottsdale Rd 0	DATE:	05/20/21	LOCATION:	Scottsdale
E-W STREET:	Coolidge St	DAY:	THURSDAY	PROJECT#	21-1341-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	1	0	3	0	0	0	0	0	0	1	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	0	229	1	0	194	0	0	0	0	0	0	2	426
4:15 PM	0	225	4	0	211	0	0	0	0	0	0	5	445
4:30 PM	0	194	1	0	200	0	0	0	0	0	0	5	400
4:45 PM	0	210	1	0	221	0	0	0	0	0	0	8	440
5:00 PM	0	240	2	0	198	0	0	0	0	0	0	6	446
5:15 PM	0	244	0	0	206	0	0	0	0	0	0	4	454
5:30 PM	0	187	1	0	209	0	0	0	0	0	0	0	
5:45 PM	0	204	2	0	236	0	0	0	0	0	0	4	446
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	1733	12	0	1675	0	0	0	0	0	0	34	3454
Approach %	0.00	99.31	0.69	0.00	100.00	0.00	####	####	####	0.00	0.00	100.00	
App/Depart	1745	/	1767	1675	/	1675	0	/	12	34	/	0	

PM Peak Hr Begins at: 430 PM

PEAK													
Volumes	0	888	4	0	825	0	0	0	0	0	0	23	1740
Approach %	0.00	99.55	0.45	0.00	100.00	0.00	####	####	####	0.00	0.00	100.00	

PEAK HR. FACTOR:	0.914	0.933	0.000	0.719	0.958

CONTROL: 1-Way Stop (WB)
COMMENT 1: 0
GPS: 33.505363, -111.926109

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

Pedestrian & Bicycle Study

N-S STREET: Scottsdale Rd
E-W STREET: Coolidge St

Date: 05/20/21
Day: THURSDAY

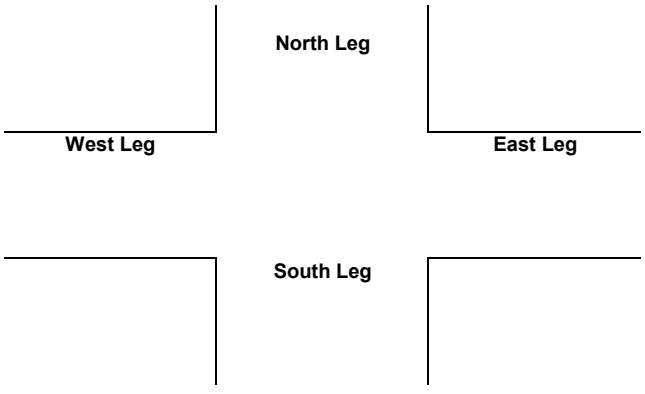
City: Scottsdale
Project #: 21-1341-002

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	1	0
7:15 AM	0	0	0	0
7:30 AM	0	0	1	0
7:45 AM	0	0	6	0
8:00 AM	0	0	1	0
8:15 AM	1	1	2	0
8:30 AM	1	1	3	0
8:45 AM	0	0	0	0
TOTAL	**2**	**2**	**14**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

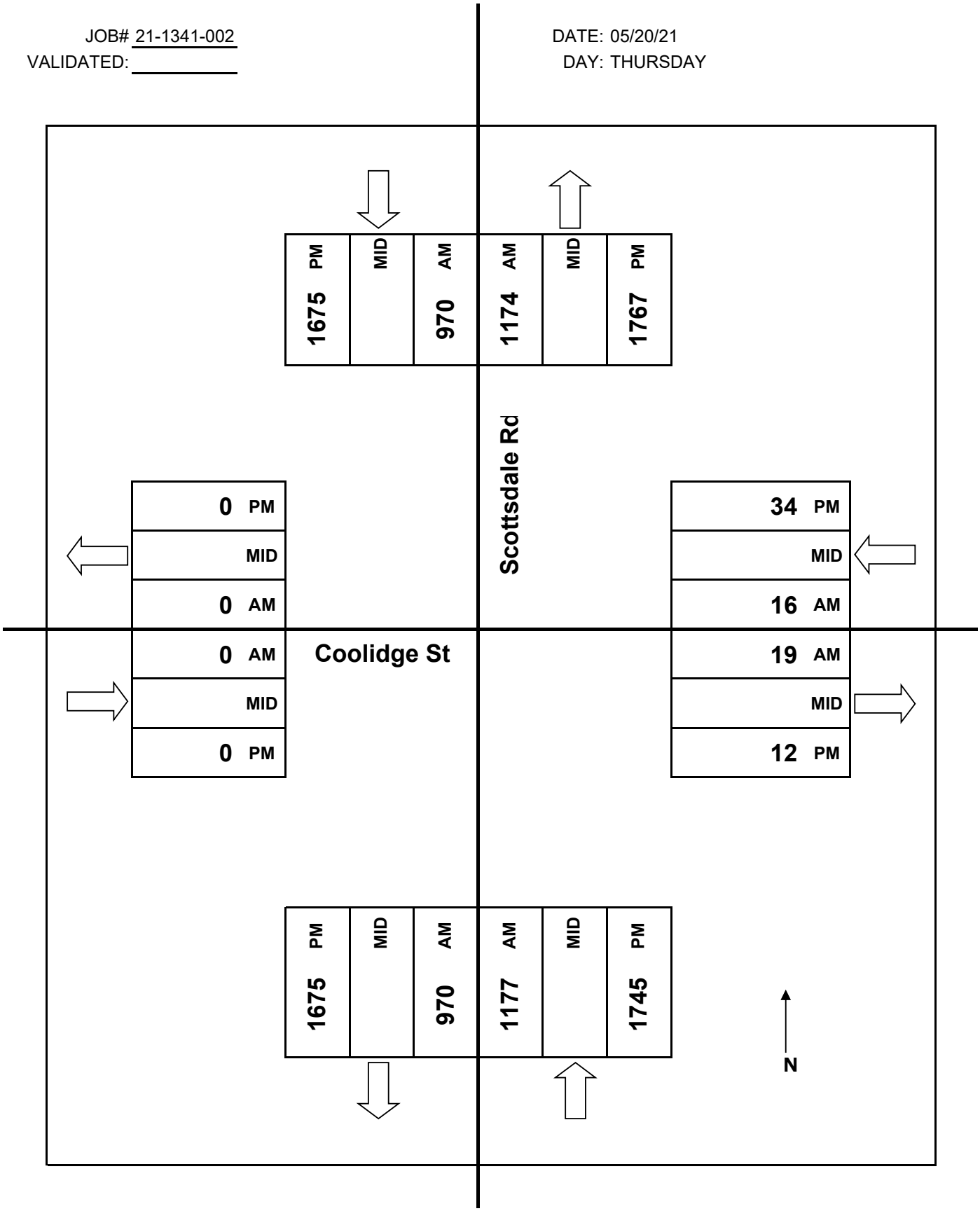
	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	3	0
4:15 PM	0	0	3	0
4:30 PM	0	0	2	0
4:45 PM	0	0	2	0
5:00 PM	0	0	0	0
5:15 PM	0	0	8	0
5:30 PM	0	0	6	0
5:45 PM	0	0	24	0
TOTAL	**0**	**0**	**48**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**



JOB# 21-1341-002
VALIDATED: _____

DATE: 05/20/21
DAY: THURSDAY

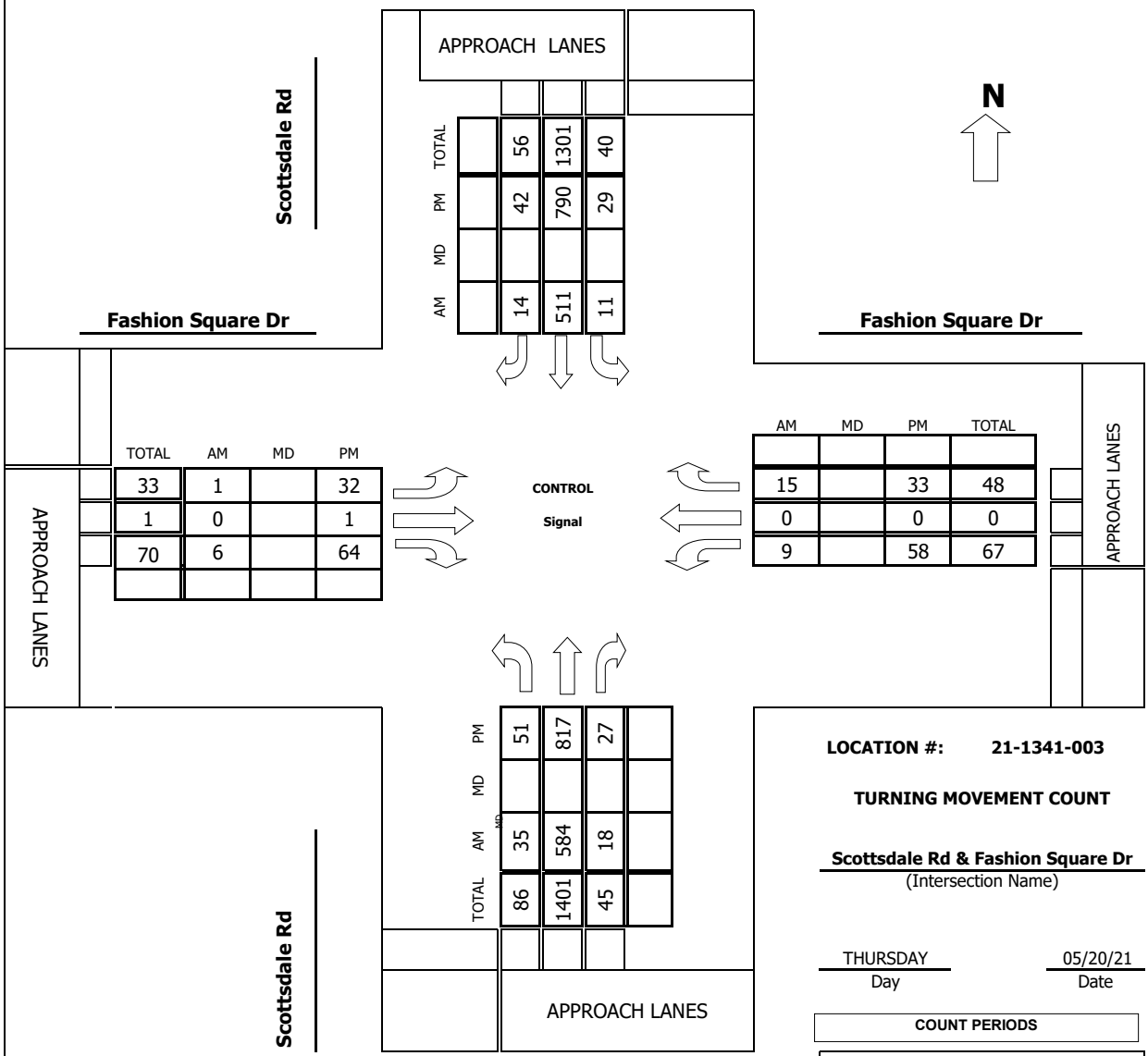


Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 21-1341-003

TMC SUMMARY OF Scottsdale Rd & Fashion Square Dr



LOCATION #: 21-1341-003

TURNING MOVEMENT COUNT

Scottsdale Rd & Fashion Square Dr
(Intersection Name)

THURSDAY (Day) 05/20/21 (Date)

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

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 430 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Scottsdale Rd	DATE:	05/20/21	LOCATION:	Scottsdale
E-W STREET:	Fashion Square Dr	DAY:	THURSDAY	PROJECT#	21-1341-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	3	1	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	1	111	3	2	74	2	0	0	0	1	0	1	195
7:15 AM	2	130	0	2	89	1	0	0	0	2	0	4	230
7:30 AM	2	149	1	1	102	2	0	0	0	4	0	4	265
7:45 AM	11	176	3	3	121	2	0	0	1	2	0	3	322
8:00 AM	1	154	2	2	127	2	0	0	0	1	0	3	292
8:15 AM	10	149	7	3	107	3	1	0	3	2	0	6	291
8:30 AM	10	124	6	3	135	2	0	0	1	5	0	3	289
8:45 AM	14	157	3	3	142	7	0	0	2	1	0	3	332
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	51	1150	25	19	897	21	1	0	7	18	0	27	2216
Approach %	4.16	93.80	2.04	2.03	95.73	2.24	12.50	0.00	87.50	40.00	0.00	60.00	
App/Depart	1226	/	1178	937	/	922	8	/	44	45	/	72	

AM Peak Hr Begins at: 800 AM

PEAK													
Volumes	35	584	18	11	511	14	1	0	6	9	0	15	1204
Approach %	5.49	91.68	2.83	2.05	95.34	2.61	14.29	0.00	85.71	37.50	0.00	62.50	

PEAK HR. FACTOR:	0.915	0.882	0.438	0.750	0.907

CONTROL: Signal
COMMENT 1:
GPS: 33.504159, -111.926135

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Scottsdale Rd 0	DATE:	05/20/21	LOCATION:	Scottsdale
E-W STREET:	Fashion Square Dr	DAY:	THURSDAY	PROJECT#	21-1341-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	3	1	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	9	214	1	15	188	16	10	1	17	8	0	7	486
4:15 PM	15	180	11	6	213	11	8	0	19	9	0	13	485
4:30 PM	18	200	6	12	176	13	6	0	16	13	0	4	464
4:45 PM	15	188	8	9	211	9	5	1	14	15	0	7	482
5:00 PM	8	232	5	3	190	9	13	0	17	18	0	10	505
5:15 PM	10	197	8	5	213	11	8	0	17	12	0	12	493
5:30 PM	15	168	1	8	206	15	9	0	24	14	0	6	
5:45 PM	17	190	5	6	209	8	10	0	17	16	1	10	489
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	107	1569	45	64	1606	92	69	2	141	105	1	69	3870
Approach %	6.22	91.17	2.61	3.63	91.15	5.22	32.55	0.94	66.51	60.00	0.57	39.43	
App/Depart	1721	/	1707	1762	/	1852	212	/	111	175	/	200	

PM Peak Hr Begins at: 430 PM

PEAK													
Volumes	51	817	27	29	790	42	32	1	64	58	0	33	1944
Approach %	5.70	91.28	3.02	3.37	91.75	4.88	32.99	1.03	65.98	63.74	0.00	36.26	

PEAK HR. FACTOR:	0.913	0.940	0.808	0.813	0.962

CONTROL: Signal
COMMENT 1: 0
GPS: 33.504159, -111.926135

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

Pedestrian & Bicycle Study

N-S STREET: Scottsdale Rd
E-W STREET: Fashion Square Dr

Date: 05/20/21
Day: THURSDAY

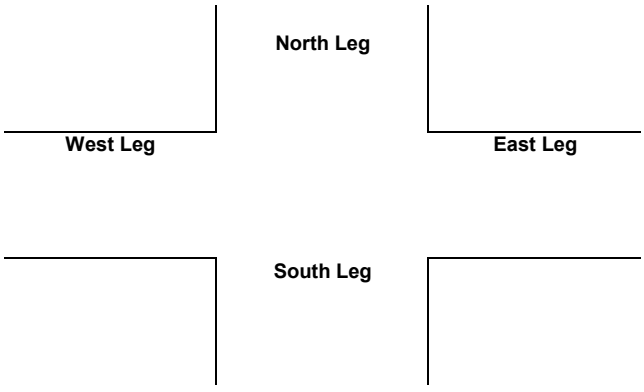
City: Scottsdale
Project #: 21-1341-003

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	1	0	1	1
7:15 AM	0	1	1	0
7:30 AM	0	0	1	0
7:45 AM	0	1	5	0
8:00 AM	0	1	5	0
8:15 AM	0	0	0	0
8:30 AM	0	2	3	0
8:45 AM	0	1	0	0
TOTAL	**1**	**6**	**16**	**1**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	1	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
TOTAL	**1**	**0**	**0**	**0**

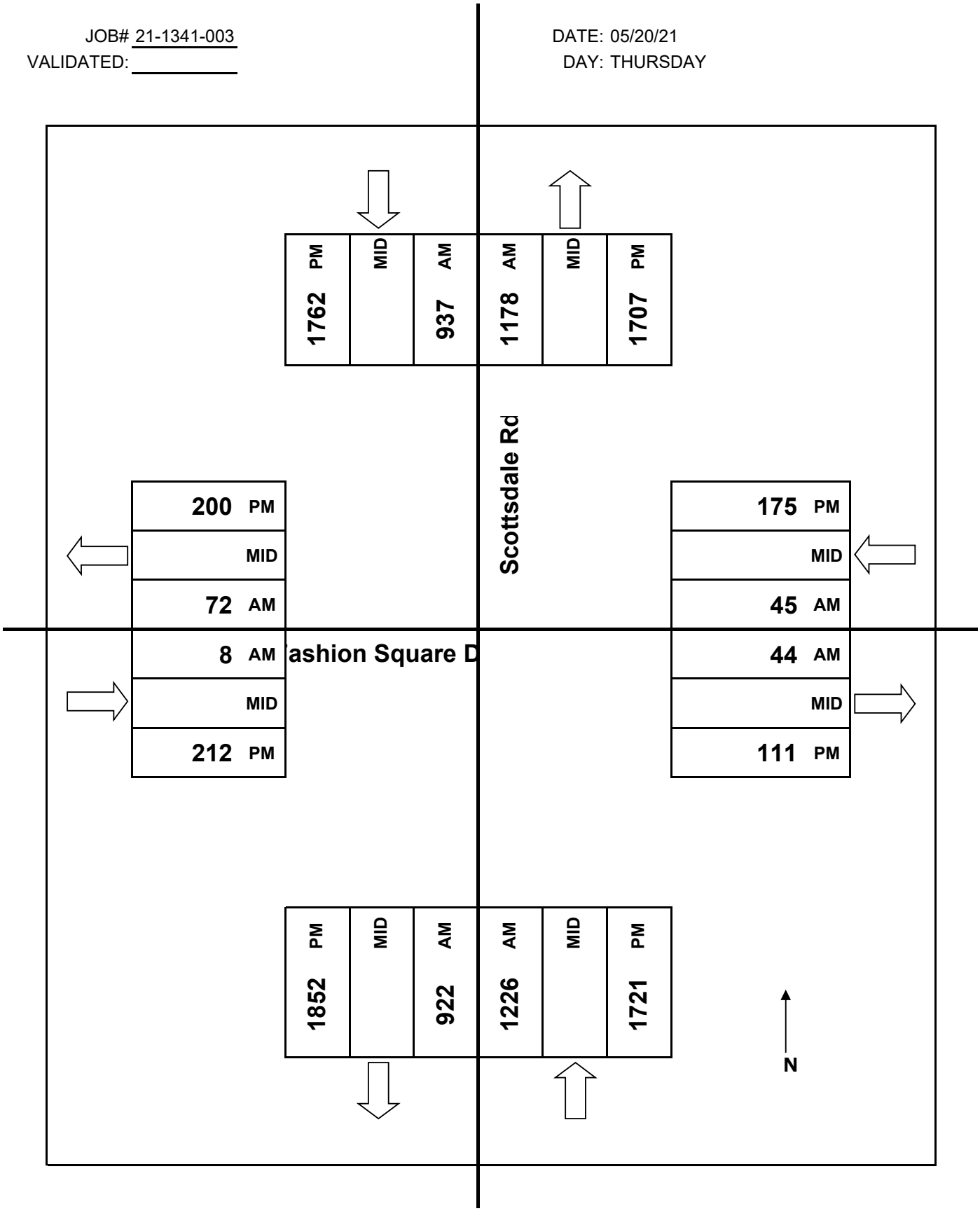
	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	1	1	0
4:15 PM	0	2	1	0
4:30 PM	2	0	0	0
4:45 PM	0	2	2	0
5:00 PM	0	1	0	0
5:15 PM	0	1	5	0
5:30 PM	1	0	4	0
5:45 PM	1	0	10	0
TOTAL	**4**	**7**	**23**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	0	0
4:15 PM	0	0	1	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**0**	**0**	**1**	**0**



JOB# 21-1341-003
VALIDATED: _____

DATE: 05/20/21
DAY: THURSDAY

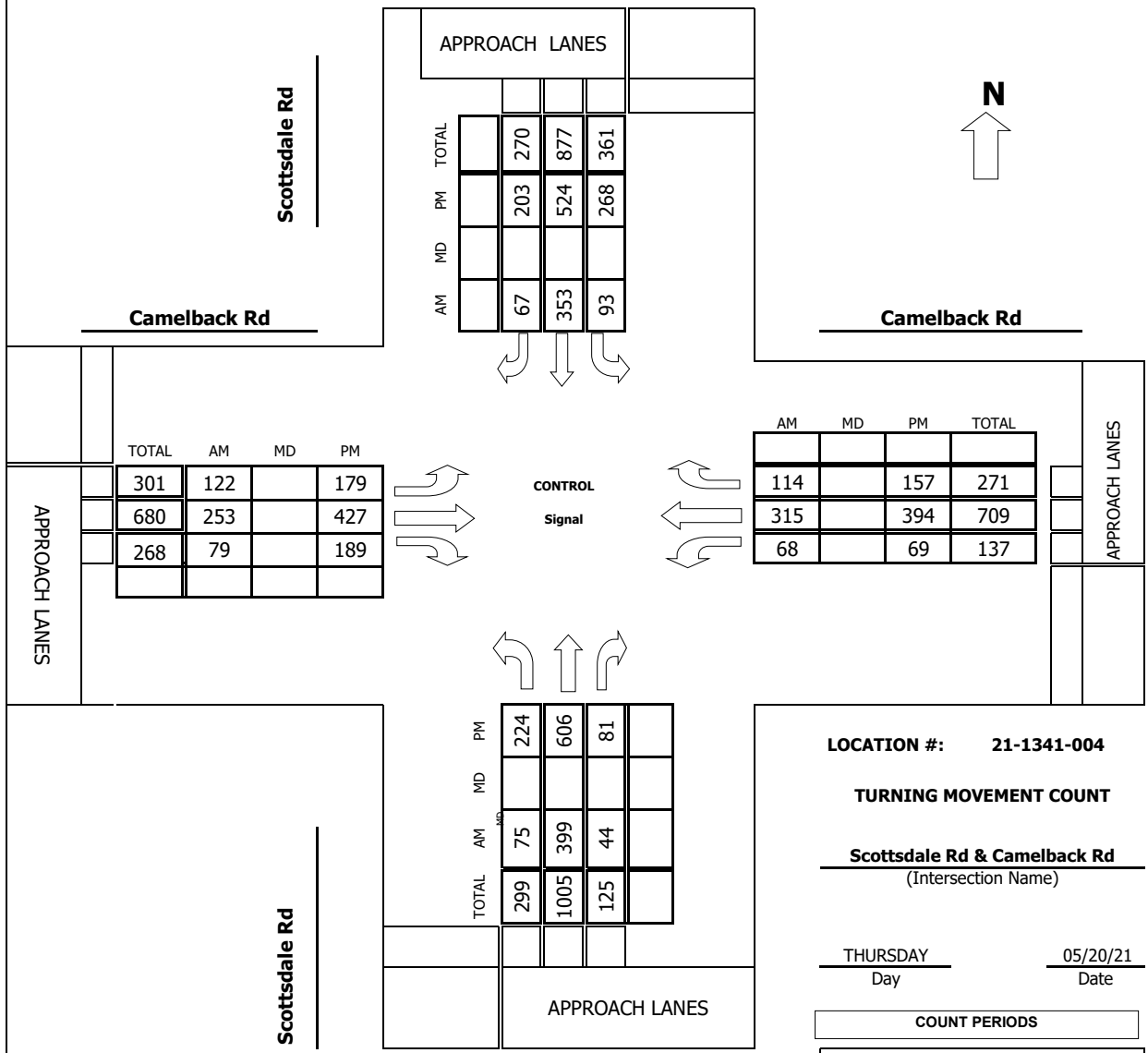


Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 21-1341-004

TMC SUMMARY OF Scottsdale Rd & Camelback Rd



LOCATION #: 21-1341-004

TURNING MOVEMENT COUNT

Scottsdale Rd & Camelback Rd
(Intersection Name)

THURSDAY (Day) 05/20/21 (Date)

COUNT PERIODS

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

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 430 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Scottsdale Rd	DATE:	05/20/21	LOCATION:	Scottsdale
E-W STREET:	Camelback Rd	DAY:	THURSDAY	PROJECT#	21-1341-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	3	0	2	2	1	2	2	1	1	2	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	10	78	1	8	55	10	25	44	25	6	51	19	332
7:15 AM	9	83	4	12	74	8	29	56	15	9	74	15	388
7:30 AM	9	106	10	15	54	14	31	70	17	12	89	21	448
7:45 AM	23	110	8	24	70	19	37	58	22	14	91	41	517
8:00 AM	23	110	11	22	74	13	26	65	17	13	80	23	477
8:15 AM	19	96	8	17	78	16	34	59	21	17	80	37	482
8:30 AM	16	98	11	23	95	21	29	73	22	14	78	25	505
8:45 AM	17	95	14	31	106	17	33	56	19	24	77	29	518
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	126	776	67	152	606	118	244	481	158	109	620	210	3667
Approach %	13.00	80.08	6.91	17.35	69.18	13.47	27.63	54.47	17.89	11.61	66.03	22.36	
App/Depart	969	/	1230	876	/	873	883	/	700	939	/	864	

AM Peak Hr Begins at: 800 AM

PEAK													
Volumes	75	399	44	93	353	67	122	253	79	68	315	114	1982
Approach %	14.48	77.03	8.49	18.13	68.81	13.06	26.87	55.73	17.40	13.68	63.38	22.94	
PEAK HR. FACTOR:		0.899			0.833			0.915			0.927		0.957

CONTROL:	Signal
COMMENT 1:	
GPS:	33.502256, -111.926143

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET: Scottsdale Rd
0
E-W STREET: Camelback Rd

DATE: 05/20/21
DAY: THURSDAY

LOCATION: Scottsdale
PROJECT# 21-1341-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	3	0	2	2	1	2	2	1	1	2	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	55	132	19	47	149	58	52	103	58	13	98	40	824
4:15 PM	43	146	22	71	120	47	35	93	50	10	83	30	750
4:30 PM	54	147	21	66	123	54	44	98	42	21	97	47	814
4:45 PM	46	145	18	55	139	52	44	111	45	14	98	33	800
5:00 PM	57	170	25	73	138	48	44	107	48	17	106	37	870
5:15 PM	67	144	17	74	124	49	47	111	54	17	93	40	837
5:30 PM	49	103	18	75	141	64	51	89	56	19	93	34	792
5:45 PM	48	122	19	64	138	56	39	120	52	22	78	61	819
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	419	1109	159	525	1072	428	356	832	405	133	746	322	6506
Approach %	24.84	65.74	9.43	25.93	52.94	21.14	22.35	52.23	25.42	11.07	62.11	26.81	
App/Depart	1687	/	1787	2025	/	1610	1593	/	1516	1201	/	1593	

PM Peak Hr Begins at: 430 PM

PEAK													
Volumes	224	606	81	268	524	203	179	427	189	69	394	157	3321
Approach %	24.59	66.52	8.89	26.93	52.66	20.40	22.52	53.71	23.77	11.13	63.55	25.32	
PEAK HR. FACTOR:		0.904			0.960			0.938			0.939		0.954

CONTROL: Signal
COMMENT 1: 0
GPS: 33.502256, -111.926143

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

Pedestrian & Bicycle Study

N-S STREET: Scottsdale Rd
E-W STREET: Camelback Rd

Date: 05/20/21
Day: THURSDAY

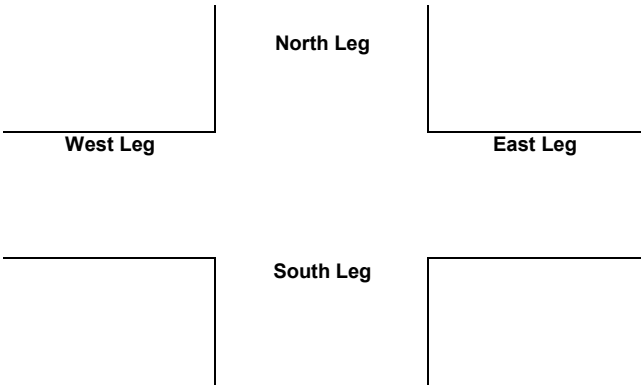
City: Scottsdale
Project #: 21-1341-004

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	4	4	2	5
7:15 AM	3	2	1	7
7:30 AM	6	2	5	7
7:45 AM	3	5	7	6
8:00 AM	3	7	16	6
8:15 AM	4	5	2	5
8:30 AM	6	3	2	12
8:45 AM	3	3	1	4
TOTAL	**32**	**31**	**36**	**52**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	2	0	3	0
7:15 AM	1	1	2	2
7:30 AM	1	4	7	2
7:45 AM	6	3	3	5
8:00 AM	8	2	2	9
8:15 AM	2	3	3	2
8:30 AM	2	1	2	2
8:45 AM	1	0	2	1
TOTAL	**23**	**14**	**24**	**23**

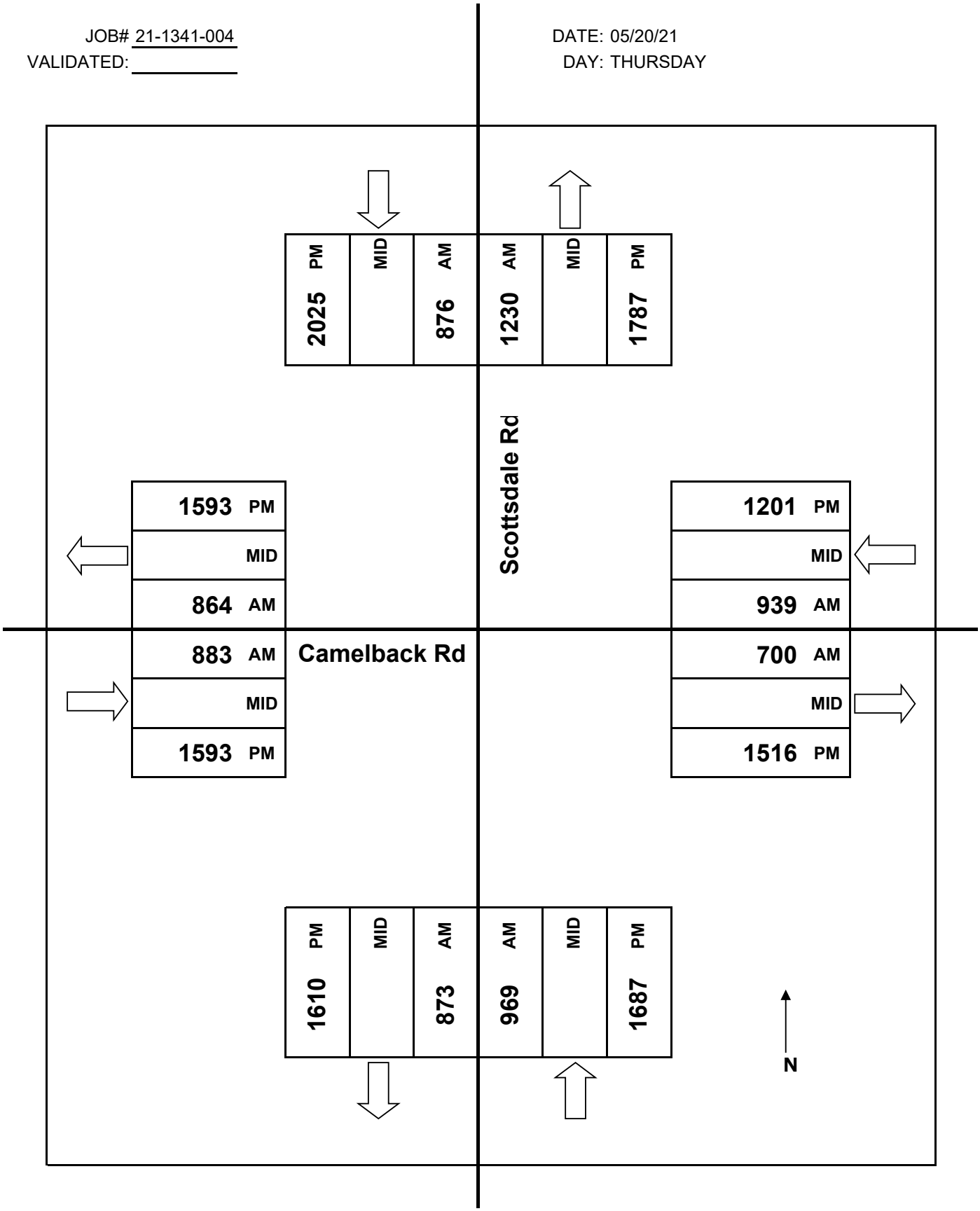
	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	1	0	2	16
4:15 PM	8	2	2	13
4:30 PM	4	8	4	6
4:45 PM	8	2	3	6
5:00 PM	8	6	3	6
5:15 PM	3	10	4	7
5:30 PM	4	7	5	19
5:45 PM	17	6	13	16
TOTAL	**53**	**41**	**36**	**89**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	1	2	3	1
4:15 PM	4	0	1	3
4:30 PM	0	4	2	0
4:45 PM	3	0	0	3
5:00 PM	0	2	1	2
5:15 PM	6	2	2	4
5:30 PM	2	1	2	3
5:45 PM	2	0	1	2
TOTAL	**18**	**11**	**12**	**18**



JOB# 21-1341-004
VALIDATED: _____

DATE: 05/20/21
DAY: THURSDAY

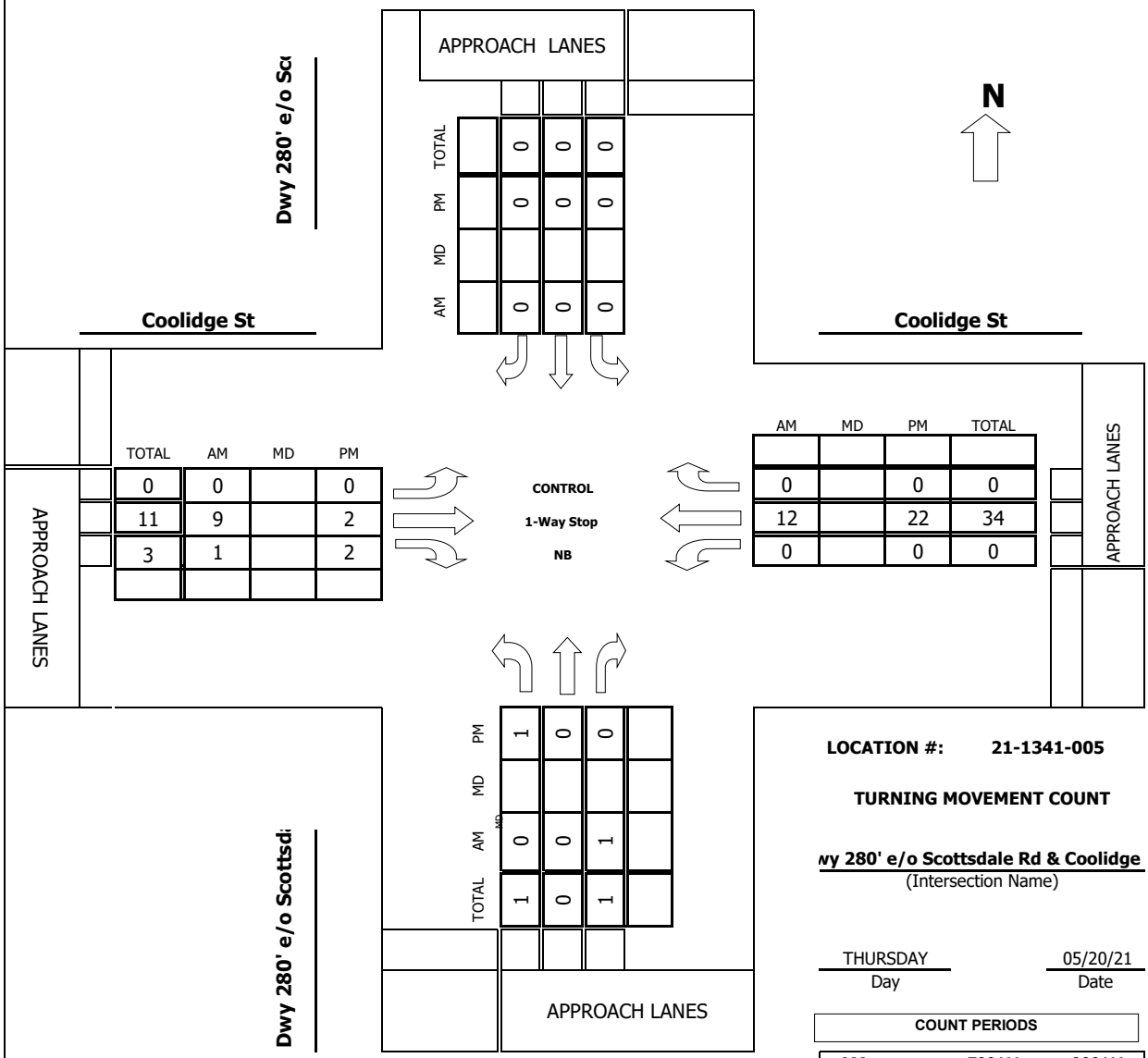


Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 21-1341-005

TMC SUMMARY OF Dwy 280' e/o Scottsdale Rd & Coolidge St



LOCATION #: 21-1341-005

TURNING MOVEMENT COUNT

Dwy 280' e/o Scottsdale Rd & Coolidge
(Intersection Name)

THURSDAY (Day) 05/20/21 (Date)

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

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 430 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Dwy 280' e/o Scottsdale Rd	DATE:	05/20/21	LOCATION:	Scottsdale
E-W STREET:	Coolidge St	DAY:	THURSDAY	PROJECT#	21-1341-005

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

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	0	1	0	0	0	0	15	4	2	16	0	38
Approach %	0.00	0.00	100.00	####	####	####	0.00	78.95	21.05	11.11	88.89	0.00	
App/Depart	1	/	0	0	/	6	19	/	16	18	/	16	

AM Peak Hr Begins at: 800 AM

PEAK													
Volumes	0	0	1	0	0	0	0	9	1	0	12	0	23
Approach %	0.00	0.00	100.00	####	####	####	0.00	90.00	10.00	0.00	100.00	0.00	
PEAK HR. FACTOR:		0.250			0.000			0.625			0.750		0.821

CONTROL: 1-Way Stop (NB)
COMMENT 1:
GPS: 33.505350, -111.925040

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Dwy 280' e/o Scottsdale Rd 0	DATE:	05/20/21	LOCATION:	Scottsdale
E-W STREET:	Coolidge St	DAY:	THURSDAY	PROJECT#	21-1341-005

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

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	1	0	0	0	0	0	0	10	2	0	33	0	46
Approach %	100.00	0.00	0.00	####	####	####	0.00	83.33	16.67	0.00	100.00	0.00	
App/Depart	1	/	0	0	/	2	12	/	10	33	/	34	

PM Peak Hr Begins at: 430 PM

PEAK													
Volumes	1	0	0	0	0	0	0	2	2	0	22	0	27
Approach %	100.00	0.00	0.00	####	####	####	0.00	50.00	50.00	0.00	100.00	0.00	

PEAK HR. FACTOR:	0.250	0.000	0.500	0.786	0.750

CONTROL:	1-Way Stop (NB)
COMMENT 1:	0
GPS:	33.505350, -111.925040

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

Pedestrian & Bicycle Study

N-S STREET: Dwy 280' e/o Scottsdale Rd
E-W STREET: Coolidge St

Date: 05/20/21
Day: THURSDAY

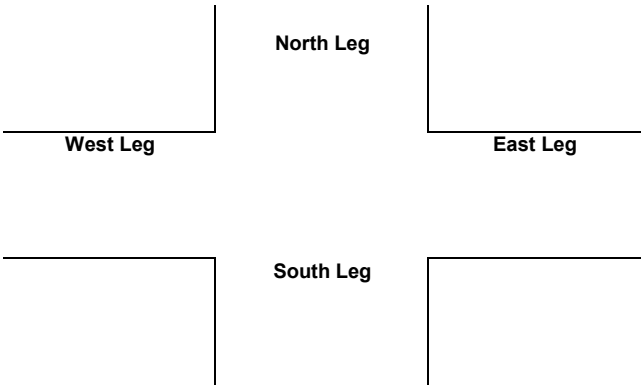
City: Scottsdale
Project #: 21-1341-005

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

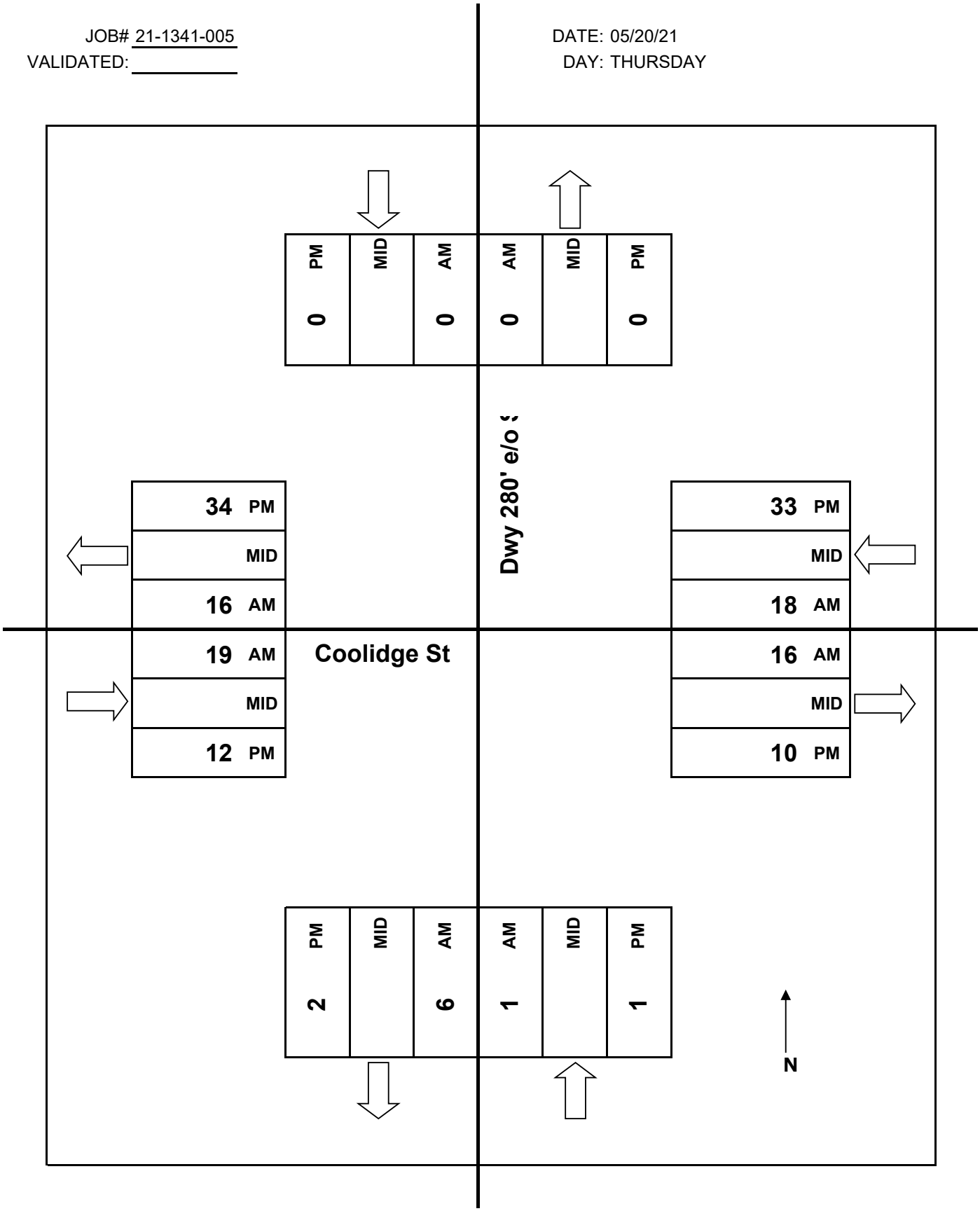
	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**



JOB# 21-1341-005
VALIDATED: _____

DATE: 05/20/21
DAY: THURSDAY

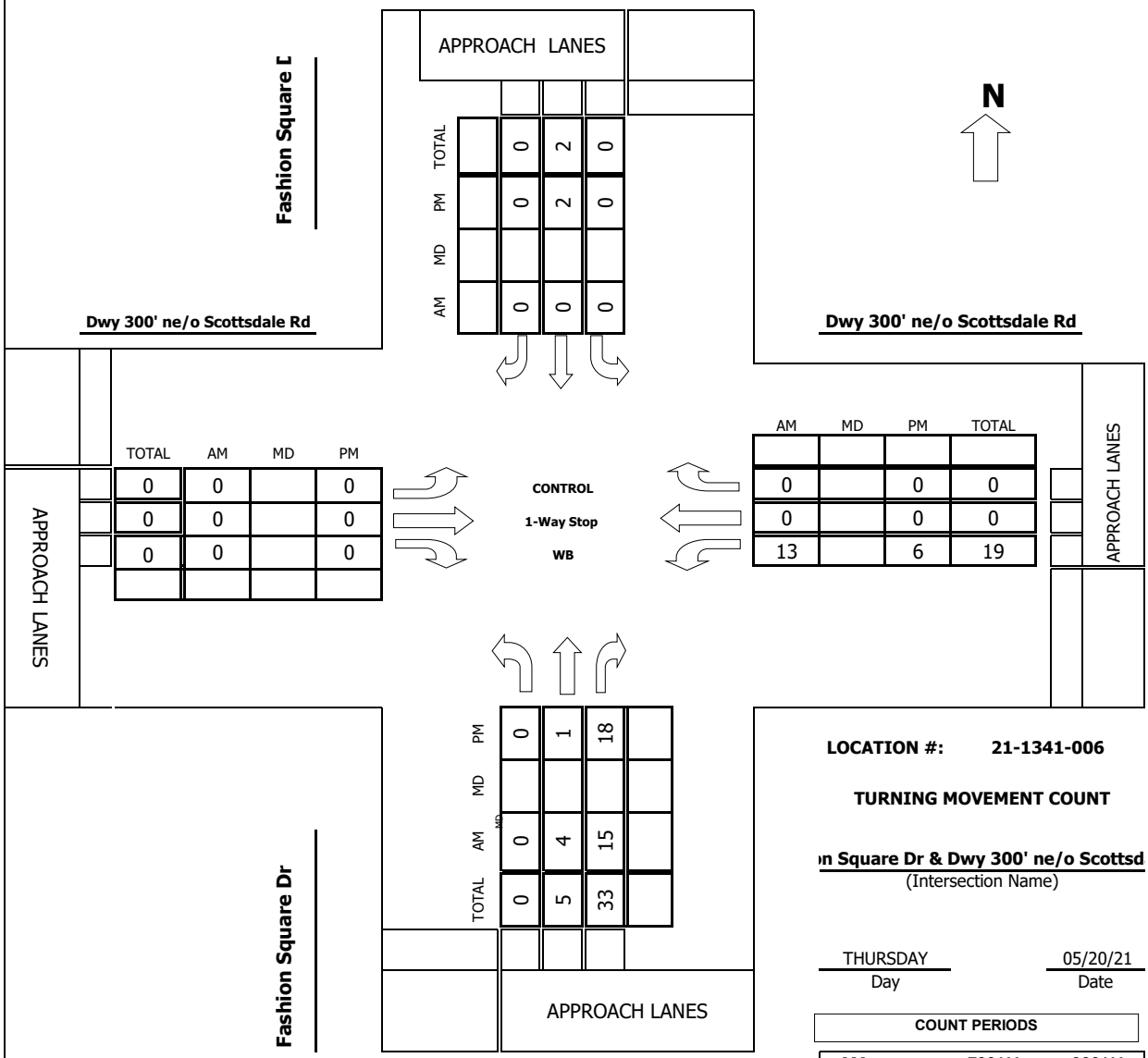


Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 21-1341-006

TMC SUMMARY OF Fashion Square Dr & Dwy 300' ne/o Scottsdale Rd



LOCATION #: 21-1341-006

TURNING MOVEMENT COUNT

n Square Dr & Dwy 300' ne/o Scottsd
(Intersection Name)

THURSDAY (Day) 05/20/21 (Date)

COUNT PERIODS

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

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 430 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Fashion Square Dr	DATE:	05/20/21	LOCATION:	Scottsdale
E-W STREET:	Dwy 300' ne/o Scottsdale Rd	DAY:	THURSDAY	PROJECT#	21-1341-006

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

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	6	20	0	2	0	0	0	0	29	0	0	57
Approach %	0.00	23.08	76.92	0.00	100.00	0.00	####	####	####	100.00	0.00	0.00	
App/Depart	26	/	6	2	/	31	0	/	20	29	/	0	

AM Peak Hr Begins at: 800 AM

PEAK													
Volumes	0	4	15	0	0	0	0	0	0	13	0	0	32
Approach %	0.00	21.05	78.95	####	####	####	####	####	####	100.00	0.00	0.00	
PEAK HR. FACTOR:		0.679			0.000			0.000			0.542		0.727

CONTROL:	1-Way Stop (WB)
COMMENT 1:	
GPS:	33.504549, -111.925019

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Fashion Square Dr 0	DATE:	05/20/21	LOCATION:	Scottsdale
E-W STREET:	Dwy 300' ne/o Scottsdale Rd	DAY:	THURSDAY	PROJECT#	21-1341-006

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

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	2	38	0	2	0	0	0	0	14	0	0	56
Approach %	0.00	5.00	95.00	0.00	100.00	0.00	####	####	####	100.00	0.00	0.00	
App/Depart	40	/	2	2	/	16	0	/	38	14	/	0	

PM Peak Hr Begins at: 430 PM

PEAK													
Volumes	0	1	18	0	2	0	0	0	0	6	0	0	27
Approach %	0.00	5.26	94.74	0.00	100.00	0.00	####	####	####	100.00	0.00	0.00	
PEAK HR. FACTOR:		0.792			0.500			0.000			0.750		0.750

CONTROL:	1-Way Stop (WB)
COMMENT 1:	0
GPS:	33.504549, -111.925019

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

Pedestrian & Bicycle Study

N-S STREET: Fashion Square Dr
E-W STREET: Dwy 300' ne/o Scottsdale Rd

Date: 05/20/21
Day: THURSDAY

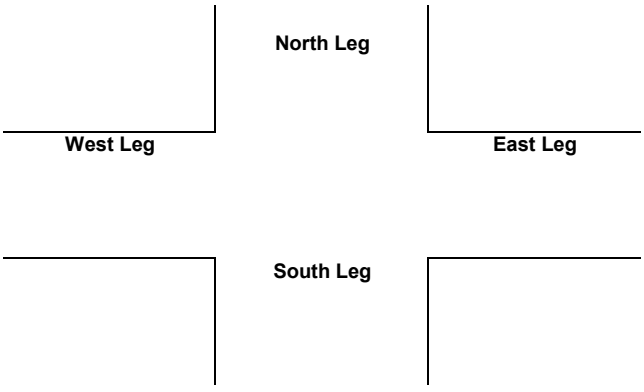
City: Scottsdale
Project #: 21-1341-006

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

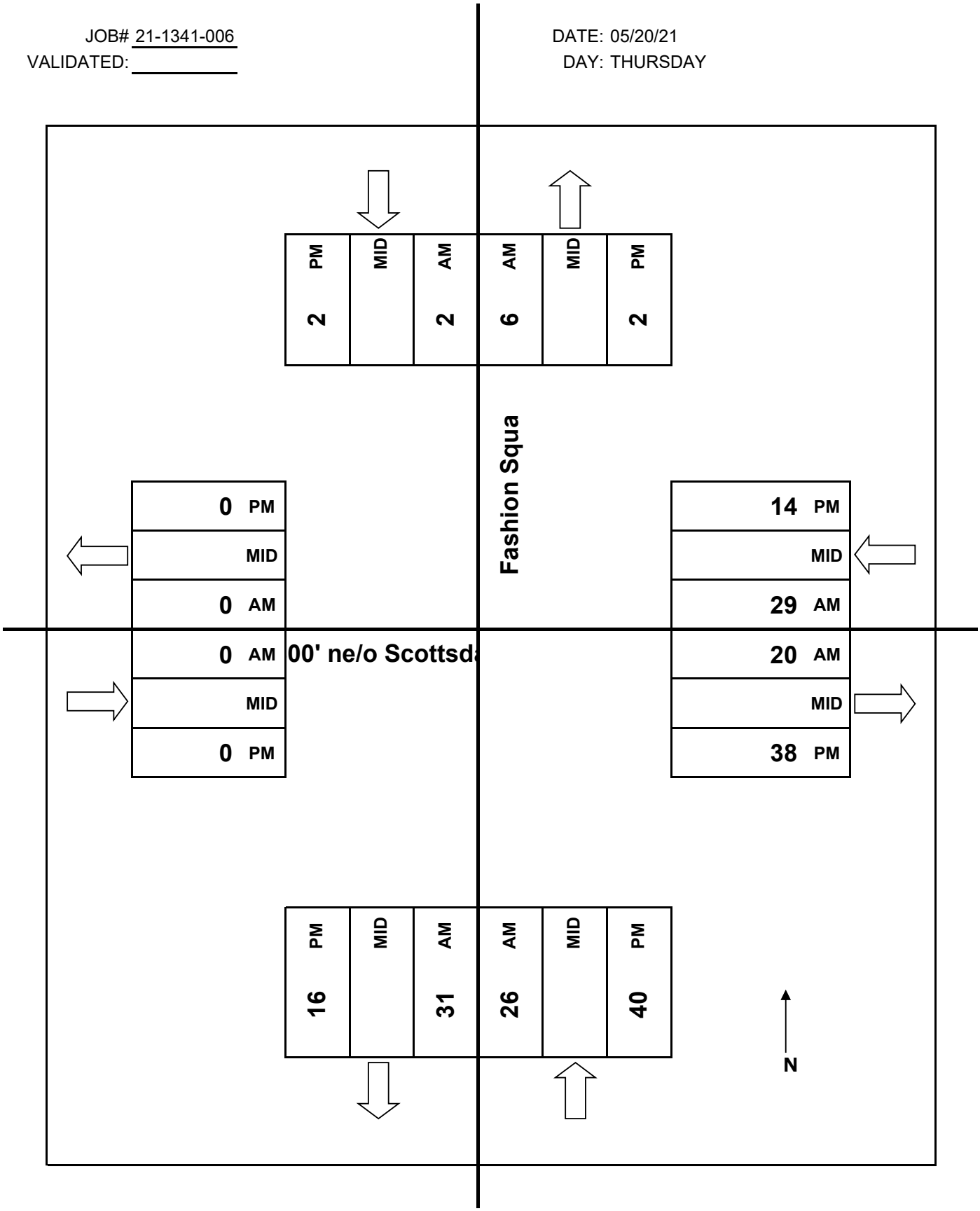
	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**



JOB# 21-1341-006
VALIDATED: _____

DATE: 05/20/21
DAY: THURSDAY

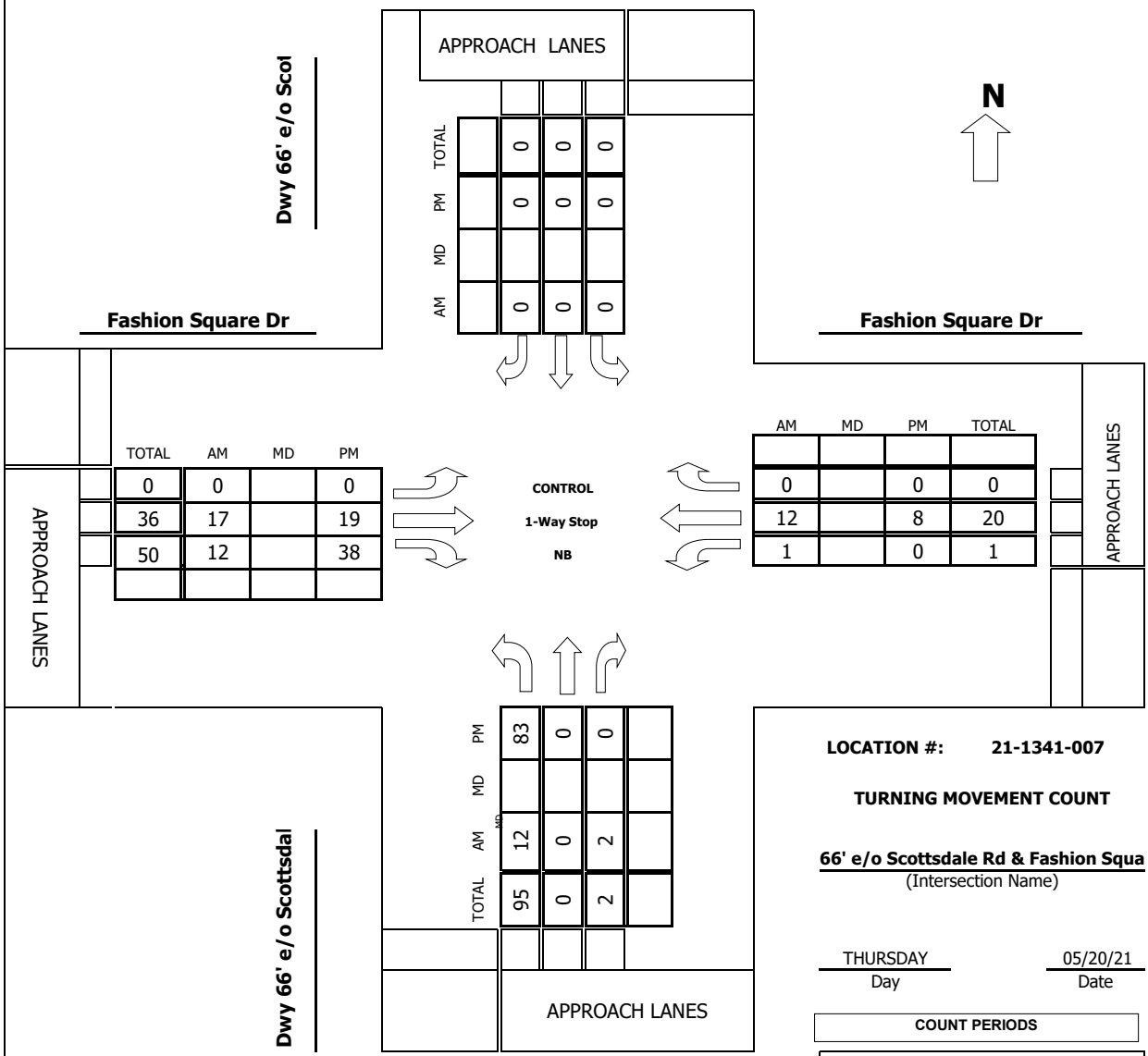


Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 21-1341-007

TMC SUMMARY OF Dwy 66' e/o Scottsdale Rd & Fashion Square Dr



LOCATION #: 21-1341-007

TURNING MOVEMENT COUNT

66' e/o Scottsdale Rd & Fashion Squa
(Intersection Name)

THURSDAY (Day) 05/20/21 (Date)

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

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 430 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Dwy 66' e/o Scottsdale Rd	DATE:	05/20/21	LOCATION:	Scottsdale
E-W STREET:	Fashion Square Dr	DAY:	THURSDAY	PROJECT#	21-1341-007

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

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	16	0	2	0	0	0	0	24	20	2	29	0	93
Approach %	88.89	0.00	11.11	####	####	####	0.00	54.55	45.45	6.45	93.55	0.00	
App/Depart	18	/	0	0	/	22	44	/	26	31	/	45	

AM Peak Hr Begins at: 800 AM

PEAK													
Volumes	12	0	2	0	0	0	0	17	12	1	12	0	56
Approach %	85.71	0.00	14.29	####	####	####	0.00	58.62	41.38	7.69	92.31	0.00	
PEAK HR. FACTOR:		0.583			0.000			0.725			0.542		0.778

CONTROL: 1-Way Stop (NB)
COMMENT 1:
GPS: 33.504155, -111.925696

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Dwy 66' e/o Scottsdale Rd 0	DATE:	05/20/21	LOCATION:	Scottsdale
E-W STREET:	Fashion Square Dr	DAY:	THURSDAY	PROJECT#	21-1341-007

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	0	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	12	0	0	0	0	0	0	9	8	0	3	0	32
4:15 PM	21	0	0	0	0	0	0	4	13	0	1	0	
4:30 PM	14	0	0	0	0	0	0	4	14	0	3	0	35
4:45 PM	21	0	0	0	0	0	0	5	13	0	1	0	40
5:00 PM	27	0	0	0	0	0	0	4	4	0	1	0	36
5:15 PM	21	0	0	0	0	0	0	6	7	0	3	0	37
5:30 PM	17	0	0	0	0	0	0	3	6	0	3	0	29
5:45 PM	26	0	0	0	0	0	0	5	6	0	1	0	38
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	159	0	0	0	0	0	0	40	71	0	16	0	286
Approach %	100.00	0.00	0.00	####	####	####	0.00	36.04	63.96	0.00	100.00	0.00	
App/Depart	159	/	0	0	/	71	111	/	40	16	/	175	

PM Peak Hr Begins at: 430 PM

PEAK													
Volumes	83	0	0	0	0	0	0	19	38	0	8	0	148
Approach %	100.00	0.00	0.00	####	####	####	0.00	33.33	66.67	0.00	100.00	0.00	

PEAK HR. FACTOR:	0.769	0.000	0.792	0.667	0.925

CONTROL: 1-Way Stop (NB)
COMMENT 1: 0
GPS: 33.504155, -111.925696

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

Pedestrian & Bicycle Study

N-S STREET: Dwy 66' e/o Scottsdale Rd
E-W STREET: Fashion Square Dr

Date: 05/20/21
Day: THURSDAY

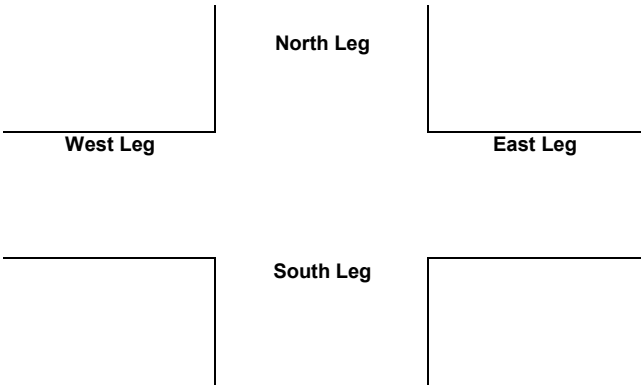
City: Scottsdale
Project #: 21-1341-007

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	1	0	0
7:30 AM	0	0	1	0
7:45 AM	0	1	0	0
8:00 AM	0	3	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	1	0	0
TOTAL	**0**	**6**	**1**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

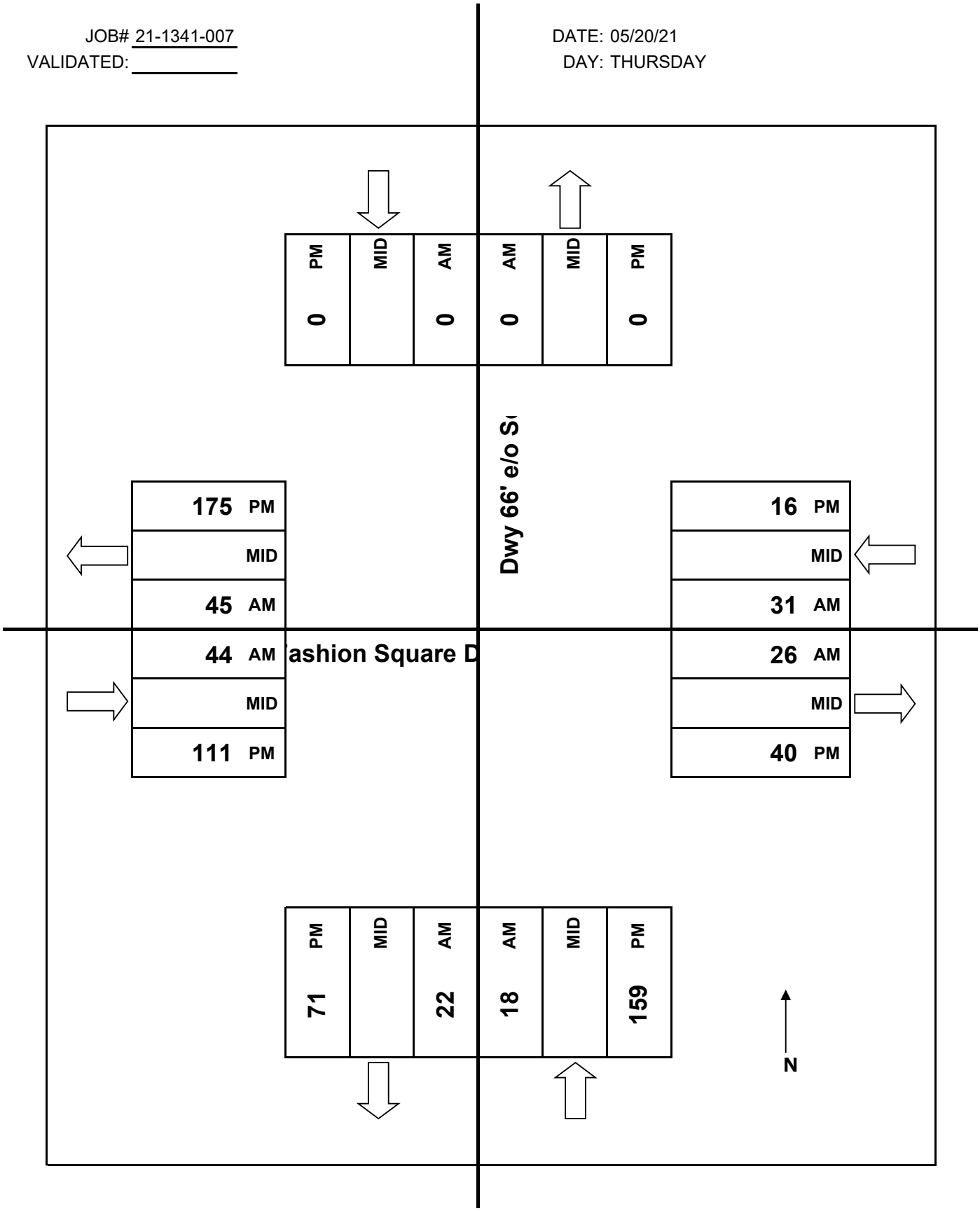
	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	1	0	0
4:15 PM	0	1	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	1	0	0
5:15 PM	0	3	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**0**	**6**	**0**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**



JOB# 21-1341-007
VALIDATED: _____

DATE: 05/20/21
DAY: THURSDAY



Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Thursday, May 20, 2021 City: Scottsdale Project #: 21-1341-008

Location: Highland Ave east of Scottsdale Rd

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			0		1			12:00			26		25		
00:15			0		0			12:15			28		25		
00:30			0		0			12:30			25		18		
00:45			0	0	0	1	1	12:45			23	102	20	88	190
01:00			0		0			13:00			23		12		
01:15			0		1			13:15			26		26		
01:30			1		0			13:30			25		26		
01:45			1	2	0	1	3	13:45			12	86	26	90	176
02:00			0		0			14:00			25		13		
02:15			0		1			14:15			14		20		
02:30			2		1			14:30			17		23		
02:45			0	2	0	2	4	14:45			17	73	15	71	144
03:00			0		1			15:00			24		19		
03:15			0		0			15:15			15		21		
03:30			0		0			15:30			22		16		
03:45			0	0	0	1	1	15:45			20	81	14	70	151
04:00			0		0			16:00			20		32		
04:15			0		0			16:15			10		27		
04:30			1		0			16:30			11		14		
04:45			0	1	0	0	1	16:45			17	58	25	98	156
05:00			1		0			17:00			7		26		
05:15			1		0			17:15			18		23		
05:30			2		0			17:30			14		18		
05:45			2	6	2	2	8	17:45			15	54	18	85	139
06:00			2		0			18:00			18		24		
06:15			6		1			18:15			7		10		
06:30			5		0			18:30			7		14		
06:45			24	37	2	3	40	18:45			7	39	7	55	94
07:00			15		2			19:00			13		16		
07:15			6		8			19:15			16		14		
07:30			11		1			19:30			16		13		
07:45			8	40	4	15	55	19:45			7	52	9	52	104
08:00			17		1			20:00			8		13		
08:15			20		13			20:15			5		7		
08:30			33		4			20:30			4		8		
08:45			23	93	9	27	120	20:45			6	23	6	34	57
09:00			32		14			21:00			6		6		
09:15			19		19			21:15			2		6		
09:30			16		5			21:30			1		6		
09:45			29	96	21	59	155	21:45			0	9	4	22	31
10:00			22		7			22:00			1		2		
10:15			6		14			22:15			1		7		
10:30			17		15			22:30			0		0		
10:45			21	66	17	53	119	22:45			1	3	2	11	14
11:00			27		21			23:00			1		2		
11:15			18		17			23:15			1		5		
11:30			23		21			23:30			0		1		
11:45			28	96	19	78	174	23:45			0	2	0	8	10
Total Vol.			439		242		**681**				582		684		**1266**

GPS Coordinates: 33.505948, -111.925540

Daily Totals

NB	SB	EB	WB	Combined
		1021	926	**1947**

	AM			PM		
Split %	64.5%	35.5%	**35.0%**	46.0%	54.0%	**65.0%**
Peak Hour	08:15	11:30	**11:30**	12:00	16:00	**12:00**
Volume	108	90	**195**	102	98	**190**
P.H.F.	0.82	0.90	**0.92**	0.91	0.77	**0.90**

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Thursday, May 20, 2021 City: Scottsdale Project #: 21-1341-009

Location: Highland Ave west of Scottsdale Rd

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			7		0			12:00			102		40		
00:15			4		0			12:15			113		30		
00:30			4		0			12:30			125		33		
00:45			5	20	0	0	20	12:45			140	480	39	142	622
01:00			5		0			13:00			159		30		
01:15			2		3			13:15			143		36		
01:30			2		0			13:30			119		25		
01:45			5	14	1	4	18	13:45			139	560	38	129	689
02:00			5		0			14:00			141		29		
02:15			5		1			14:15			134		22		
02:30			4		1			14:30			152		34		
02:45			2	16	1	3	19	14:45			157	584	26	111	695
03:00			1		0			15:00			142		34		
03:15			4		1			15:15			125		20		
03:30			0		0			15:30			155		24		
03:45			2	7	0	1	8	15:45			132	554	24	102	656
04:00			2		1			16:00			162		33		
04:15			2		3			16:15			118		28		
04:30			2		1			16:30			121		28		
04:45			4	10	1	6	16	16:45			123	524	30	119	643
05:00			8		3			17:00			157		30		
05:15			13		3			17:15			143		30		
05:30			11		2			17:30			155		22		
05:45			19	51	4	12	63	17:45			127	582	27	109	691
06:00			22		3			18:00			115		23		
06:15			31		4			18:15			112		29		
06:30			26		7			18:30			144		29		
06:45			51	130	7	21	151	18:45			98	469	25	106	575
07:00			31		14			19:00			140		20		
07:15			62		8			19:15			121		19		
07:30			54		13			19:30			105		34		
07:45			88	235	19	54	289	19:45			76	442	12	85	527
08:00			78		8			20:00			107		18		
08:15			81		14			20:15			62		19		
08:30			65		15			20:30			81		13		
08:45			87	311	16	53	364	20:45			66	316	12	62	378
09:00			64		22			21:00			67		20		
09:15			65		19			21:15			78		5		
09:30			56		19			21:30			40		8		
09:45			89	274	17	77	351	21:45			51	236	16	49	285
10:00			44		16			22:00			55		10		
10:15			57		19			22:15			28		9		
10:30			71		21			22:30			17		1		
10:45			102	274	22	78	352	22:45			24	124	2	22	146
11:00			87		34			23:00			19		6		
11:15			101		23			23:15			18		5		
11:30			105		35			23:30			15		6		
11:45			134	427	31	123	550	23:45			15	67	5	22	89
Total Vol.				1769		432	**2201**					4938		1058	**5996**

GPS Coordinates: 33.505977, -111.926624

Daily Totals

NB	SB	EB	WB	Combined
		6707	1490	**8197**

	AM			PM		
Split %	80.4%	19.6%	**26.9%**	82.4%	17.6%	**73.1%**
Peak Hour	11:45	11:30	**11:45**	14:15	12:00	**12:30**
Volume	474	136	**608**	585	142	**705**
P.H.F.	0.88	0.85	**0.92**	0.93	0.89	**0.93**

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Thursday, May 20, 2021 City: Scottsdale Project #: 21-1341-010

Location: Coolidge St east of Scottsdale Rd

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			0		0			12:00			3		3		
00:15			0		0			12:15			3		2		
00:30			0		0			12:30			3		10		
00:45			0	0	0	0		12:45			0	9	2	17	26
01:00			0		1			13:00			1		2		
01:15			0		0			13:15			7		5		
01:30			1		1			13:30			4		4		
01:45			1	2	0	2	4	13:45			3	15	3	14	29
02:00			0		0			14:00			2		4		
02:15			0		0			14:15			5		4		
02:30			0		0			14:30			2		5		
02:45			0	0	1	1	1	14:45			2	11	3	16	27
03:00			0		0			15:00			3		4		
03:15			0		0			15:15			1		2		
03:30			0		0			15:30			0		5		
03:45			0	0	0	0		15:45			3	7	3	14	21
04:00			0		0			16:00			1		2		
04:15			0		0			16:15			4		5		
04:30			0		0			16:30			1		5		
04:45			0	0	0	0		16:45			1	7	8	20	27
05:00			0		0			17:00			2		6		
05:15			0		2			17:15			0		4		
05:30			0		0			17:30			1		0		
05:45			1	1	0	2	3	17:45			2	5	4	14	19
06:00			1		3			18:00			3		3		
06:15			0		0			18:15			3		2		
06:30			2		1			18:30			2		1		
06:45			0	3	1	5	8	18:45			1	9	2	8	17
07:00			2		1			19:00			2		1		
07:15			3		1			19:15			1		1		
07:30			1		1			19:30			0		2		
07:45			3	9	1	4	13	19:45			0	3	1	5	8
08:00			4		2			20:00			1		2		
08:15			2		3			20:15			0		2		
08:30			1		4			20:30			1		0		
08:45			3	10	3	12	22	20:45			0	2	4	8	10
09:00			2		3			21:00			1		2		
09:15			3		4			21:15			0		1		
09:30			2		2			21:30			0		0		
09:45			3	10	3	12	22	21:45			0	1	1	4	5
10:00			1		0			22:00			0		0		
10:15			3		1			22:15			1		0		
10:30			1		3			22:30			0		0		
10:45			2	7	3	7	14	22:45			1	2	0	0	2
11:00			3		3			23:00			0		0		
11:15			5		4			23:15			0		0		
11:30			1		2			23:30			1		0		
11:45			5	14	5	14	28	23:45			0	1	0	0	1
Total Vol.				56		59	**115**					72		120	**192**

GPS Coordinates: 33.505366, -111.925613

Daily Totals

NB	SB	EB	WB	Combined
		128	179	**307**

	AM			PM		
Split %	48.7%	51.3%	**37.5%**	37.5%	62.5%	**62.5%**
Peak Hour	11:00	11:45	**11:45**	13:15	16:15	**13:15**
Volume	14	20	**34**	16	24	**32**
P.H.F.	0.70	0.50	**0.65**	0.57	0.75	**0.67**

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Thursday, May 20, 2021 City: Scottsdale Project #: 21-1341-011

Location: Fashion Square Dr east of Scottsdale Rd

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			0		1			12:00			16		29		
00:15			0		0			12:15			21		32		
00:30			0		0			12:30			25		37		
00:45			0	0	0	1	1	12:45			11	73	33	131	204
01:00			1		0			13:00			9		26		
01:15			0		0			13:15			19		34		
01:30			2		2			13:30			15		26		
01:45			0	3	1	3	6	13:45			14	57	29	115	172
02:00			0		0			14:00			7		25		
02:15			1		0			14:15			16		27		
02:30			0		0			14:30			11		28		
02:45			1	2	0	0	2	14:45			11	45	24	104	149
03:00			0		0			15:00			8		18		
03:15			0		1			15:15			18		22		
03:30			0		0			15:30			8		28		
03:45			1	1	0	1	2	15:45			7	41	16	84	125
04:00			1		0			16:00			17		15		
04:15			0		0			16:15			17		22		
04:30			0		0			16:30			18		17		
04:45			1	2	0	0	2	16:45			18	70	22	76	146
05:00			2		0			17:00			8		28		
05:15			0		2			17:15			13		24		
05:30			3		0			17:30			9		20		
05:45			1	6	1	3	9	17:45			11	41	27	99	140
06:00			4		1			18:00			20		18		
06:15			2		1			18:15			13		24		
06:30			4		5			18:30			15		23		
06:45			3	13	7	14	27	18:45			9	57	23	88	145
07:00			5		2			19:00			15		21		
07:15			2		6			19:15			12		16		
07:30			2		8			19:30			14		18		
07:45			6	15	5	21	36	19:45			7	48	13	68	116
08:00			4		4			20:00			9		13		
08:15			10		8			20:15			11		7		
08:30			9		8			20:30			9		7		
08:45			6	29	4	24	53	20:45			5	34	11	38	72
09:00			11		14			21:00			3		16		
09:15			3		6			21:15			5		4		
09:30			4		9			21:30			3		5		
09:45			5	23	7	36	59	21:45			1	12	2	27	39
10:00			10		6			22:00			1		2		
10:15			10		18			22:15			1		3		
10:30			11		17			22:30			1		0		
10:45			19	50	25	66	116	22:45			2	5	1	6	11
11:00			11		24			23:00			1		3		
11:15			13		20			23:15			1		3		
11:30			15		17			23:30			4		0		
11:45			17	56	32	93	149	23:45			0	6	0	6	12
Total Vol.				200		262	**462**					489		842	**1331**

GPS Coordinates: 33.504154, -111.925567

Daily Totals

NB	SB	EB	WB	Combined
		689	1104	**1793**

	AM			PM		
Split %	43.3%	56.7%	**25.8%**	36.7%	63.3%	**74.2%**
Peak Hour	11:45	11:45	**11:45**	12:00	12:00	**12:00**
Volume	79	130	**209**	73	131	**204**
P.H.F.	0.79	0.88	**0.84**	0.73	0.89	**0.82**

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Thursday, May 20, 2021 City: Scottsdale Project #: 21-1341-012

Location: Scottsdale Rd south of Highland Ave

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	19		14					12:00	213		197				
00:15	18		14					12:15	205		233				
00:30	18		6					12:30	249		245				
00:45	16	71	10	44			115	12:45	222	889	222	897			1786
01:00	11		10					13:00	239		196				
01:15	8		2					13:15	216		193				
01:30	19		6					13:30	205		206				
01:45	7	45	12	30			75	13:45	189	849	193	788			1637
02:00	12		9					14:00	244		210				
02:15	16		10					14:15	224		198				
02:30	12		8					14:30	215		181				
02:45	10	50	5	32			82	14:45	214	897	222	811			1708
03:00	6		6					15:00	206		174				
03:15	10		5					15:15	212		211				
03:30	6		3					15:30	189		161				
03:45	7	29	6	20			49	15:45	205	812	218	764			1576
04:00	8		6					16:00	211		184				
04:15	20		3					16:15	251		209				
04:30	13		6					16:30	193		199				
04:45	20	61	9	24			85	16:45	201	856	210	802			1658
05:00	20		8					17:00	217		196				
05:15	26		14					17:15	265		209				
05:30	35		25					17:30	194		192				
05:45	37	118	39	86			204	17:45	207	883	242	839			1722
06:00	30		28					18:00	211		186				
06:15	49		44					18:15	192		216				
06:30	75		43					18:30	162		160				
06:45	90	244	63	178			422	18:45	175	740	162	724			1464
07:00	116		84					19:00	165		144				
07:15	104		93					19:15	177		155				
07:30	135		83					19:30	162		120				
07:45	156	511	140	400			911	19:45	167	671	122	541			1212
08:00	159		130					20:00	136		103				
08:15	164		116					20:15	150		109				
08:30	173		117					20:30	125		103				
08:45	125	621	161	524			1145	20:45	137	548	90	405			953
09:00	150		157					21:00	127		72				
09:15	145		140					21:15	97		68				
09:30	179		141					21:30	75		64				
09:45	167	641	173	611			1252	21:45	94	393	73	277			670
10:00	149		142					22:00	86		56				
10:15	162		173					22:15	69		49				
10:30	175		197					22:30	54		34				
10:45	182	668	179	691			1359	22:45	48	257	33	172			429
11:00	186		219					23:00	37		34				
11:15	188		216					23:15	39		37				
11:30	179		199					23:30	22		32				
11:45	233	786	221	855			1641	23:45	34	132	21	124			256
Total Vol.		3845		3495			**7340**			7927		7144			**15071**

GPS Coordinates: 33.505547, -111.926130

Daily Totals

NB	SB	EB	WB	**Combined**
11772	10639			**22411**

	AM			**PM**		
Split %	52.4%	47.6%	**32.8%**	52.6%	47.4%	**67.2%**
Peak Hour	11:45	11:45	**11:45**	12:30	12:00	**12:15**
Volume	900	896	**1796**	926	897	**1811**
P.H.F.	0.90	0.91	**0.91**	0.93	0.92	**0.92**

Appendix D – Existing Signal Timing

D

SCOTTSDALE & FASHION SQUARE

FIELD DATA - CLEARANCES

N/S STREET: SCOTTSDALE E/W STREET: FASHION SQUARE

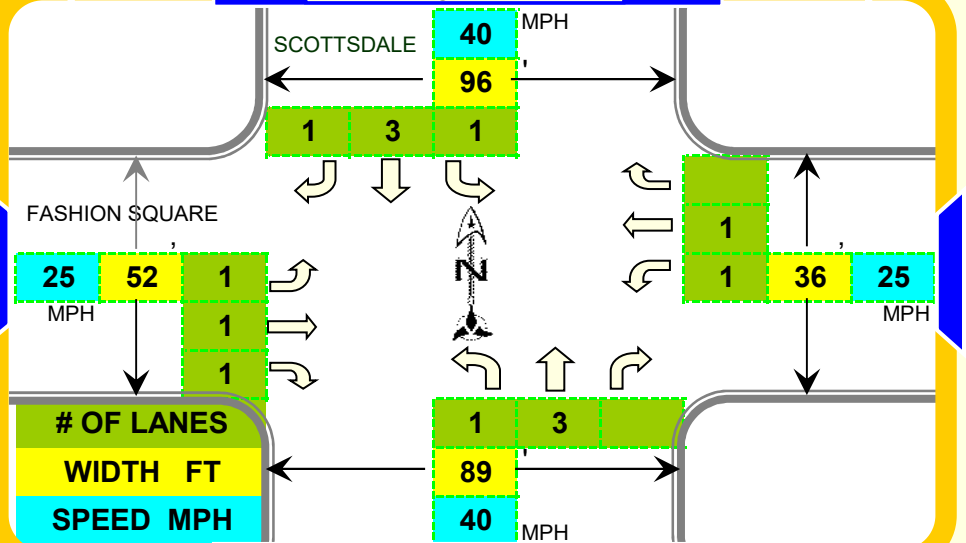
DATE MEASURED	SYSTEM #	SECTION #	PED SPEED	VEH LENGTH	REACT TIME	ACCEL.
8/18/2010	63	101	3.5	18	1	10

BASIC TIME | SEQUENCE | PATTERNS | HISTORY

INTERSECTION GEOMETRICS

AERIAL PHOTO

MEASUREMENTS



CALCULATIONS

INTERVAL	FORMULAS	N/S	E/W	N/S	E/W	EXCESS TIME>	N/S	E/W	TOTALS
F.D.W.	= (Width-6)/PedSpeed-(AllRed+Yellow)	8.02	19.77	9	20		0.98	0.23	1.21
YELLOW	= ReactionTime+(Speed/(2*Accel))	3.93	2.83	4.6	2.9		0.67	0.07	0.73
ALL-RED	= (Width+LenghVehicle)/Speed	1.19	3.11	1.4	3.1		0.21	-0.01	0.20 2.14
		CALC		ROUNDED - UP					

SCOTTSDALE & FASHION SQUARE

BASIC TIMING PLANS

RECOMMENDED CLEARANCES

	N/S	E/W	LEFT TURN	DATE DESIGNED
F.D.W.	9	20	STANDARD	8/18/2010
YELLOW	4.6	2.9	3.0	SYSTEM # / SECTION #
ALL-RED	1.4	3.1	1.0	63 / 101

COMMUNICATIONS I.P. ADDRESS
MM-1-5-1 172.17. 10.63

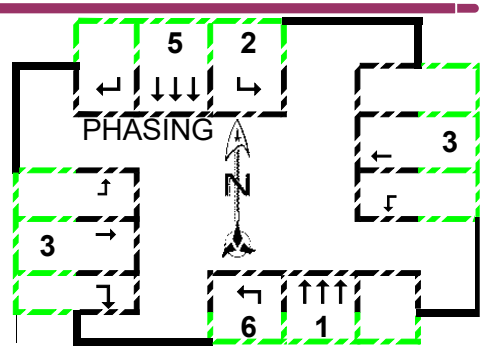
TIMING #1 | TIMING #2 | TIMING #3 | TIMING #4
CLEARANCE | SEQUENCE | PATTERNS | HISTORY

MM-2-1 TIMING PLAN

GREENS
PEDESTRIAN
MAXIMUMS
REDS
VOL DENSITY
MM-2-8
RECALL

PHASE	1	2	3		5	6
MOVEMENT	NBT	SBL	EWT		SBT	NBL
NOTES		LD PRM				LD PRM
MIN GRN	10	4	6		10	4
BK MGRN						
CS MGRN						
DLY GRN						
WALK	20		6		20	
WALK2						
WLK MAX						
PED CLR/FDW	10		20		10	
PD CLR2						
PC MAX						
PED CO						
VEH EXT		1	1.5			1
VH EXT2						
MAX 1	65	15	15		65	15
MAX 2	75	30	30		75	30
MAX 3						
DYM MAX						
DYM STP						
YELLOW	4.5	3	3.1		4.5	3
RED CLR	1.5	1	3.9		1.5	1
RED MAX						
RED RVT	2		2		2	
ACT B4						
SEC/ACT						
MAX INT						
TIME B4						
CARS WT						
STPTDUC						
TTREDUC						
MIN GAP						
LOCK DET						
VEH RECALL						
PED RECALL	X				X	
MAX RECALL						
SOFT RECALL						
NO REST						
ADD INIT CAL						

9 10 11 12 13 14 15 16

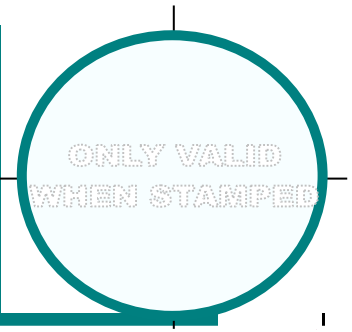


1	2	3	4	5	6	7	8
64	16	26	26	64	16	33	26
75	30	30	34	75	30	37	34

SPLIT PLAN MAXIMUMS

NOTES

USE SEQUENCE 16 AT ALL TIMES



SCOTTSDALE & FASHION SQUARE

BASIC TIMING PLANS

RECOMMENDED CLEARANCES

	N/S	E/W	LEFT TURN	DATE DESIGNED
F.D.W.	9	20	STANDARD	8/18/2010
YELLOW	4.6	2.9	3.0	SYSTEM # / SECTION #
ALL-RED	1.4	3.1	1.0	63 / 101

COMMUNICATIONS I.P. ADDRESS
MM-1-5-1 172.17. 10.63

TIMING #1 | TIMING #2 | TIMING #3 | TIMING #4
CLEARANCE | SEQUENCE | PATTERNS | HISTORY

MM-2-1 TIMING PLAN

GREENS

PEDESTRIAN

MAXIMUMS

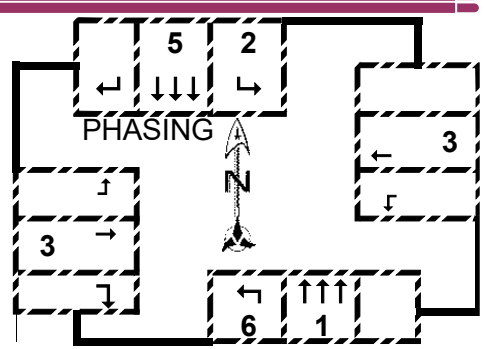
REDS

VOL DENSITY

MM-2-8 RECALL

PHASE	1	2	3	4	5	6	7	8
MOVEMENT	NBT	SBL	WBT	EBL	SBT	NBL	EBT	WBL
NOTES								
MIN GRN								
BK MGRN								
CS MGRN								
DLY GRN								
WALK								
WALK2								
WLK MAX								
PED CLR/FDW								
PD CLR2								
PC MAX								
PED CO								
VEH EXT								
VH EXT2								
MAX 1								
MAX 2								
MAX 3								
DYM MAX								
DYM STP								
YELLOW								
RED CLR								
RED MAX								
RED RVT								
ACT B4								
SEC/ACT								
MAX INT								
TIME B4								
CARS WT								
STPTDUC								
TTREDUC								
MIN GAP								
LOCK DET								
VEH RECALL								
PED RECALL								
MAX RECALL								
SOFT RECALL								
NO REST								
ADD INIT CAL								

9 10 11 12 13 14 15 16



1	2	3	4	5	6	7	8
0	5	2	30	3	1	0	0
0	5	2	8	3	1	0	0

SPLIT PLAN MAXIMUMS

NOTES

SCOTTSDALE & FASHION SQUARE

BASIC TIMING PLANS

RECOMMENDED CLEARANCES

	N/S	E/W	LEFT TURN	DATE DESIGNED
F.D.W.	9	20	STANDARD	8/18/2010
YELLOW	4.6	2.9	3.0	SYSTEM # / SECTION #
ALL-RED	1.4	3.1	1.0	63 / 101

COMMUNICATIONS I.P. ADDRESS
MM-1-5-1 172.17. 10.63

TIMING #1 | TIMING #2 | TIMING #3 | TIMING #4
CLEARANCE | SEQUENCE | PATTERNS | HISTORY

MM-2-1
TIMING PLAN

GREENS

PEDESTRIAN

MAXIMUMS

REDS

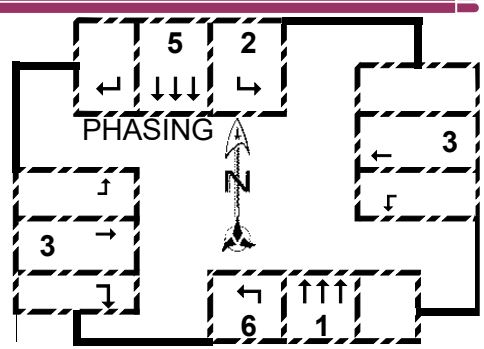
VOL DENSITY

MM-2-8

RECALL

PHASE	1	2	3	4	5	6	7	8
MOVEMENT	NBT	SBL	WBT	EBL	SBT	NBL	EBT	WBL
NOTES								
MIN GRN								
BK MGRN								
CS MGRN								
DLY GRN								
WALK								
WALK2								
WLK MAX								
PED CLR/FDW								
PD CLR2								
PC MAX								
PED CO								
VEH EXT								
VH EXT2								
MAX 1								
MAX 2								
MAX 3								
DYM MAX								
DYM STP								
YELLOW								
RED CLR								
RED MAX								
RED RVT								
ACT B4								
SEC/ACT								
MAX INT								
TIME B4								
CARS WT								
STPTDUC								
TTREDUC								
MIN GAP								
LOCK DET								
VEH RECALL								
PED RECALL								
MAX RECALL								
SOFT RECALL								
NO REST								
ADD INIT CAL								

9 10 11 12 13 14 15 16



1	2	3	4	5	6	7	8
1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0

SPLIT PLAN MAXIMUMS

NOTES

SCOTTSDALE & FASHION SQUARE

BASIC TIMING PLANS

RECOMMENDED CLEARANCES

	N/S	E/W	LEFT TURN	DATE DESIGNED
F.D.W.	9	20	STANDARD	8/18/2010
YELLOW	4.6	2.9	3.0	SYSTEM # / SECTION #
ALL-RED	1.4	3.1	1.0	63 / 101

COMMUNICATIONS I.P. ADDRESS
MM-1-5-1 172.17. 10.63

TIMING #1 | TIMING #2 | TIMING #3 | TIMING #4
CLEARANCE | SEQUENCE | PATTERNS | HISTORY

MM-2-1
TIMING PLAN

GREENS

PEDESTRIAN

MAXIMUMS

REDS

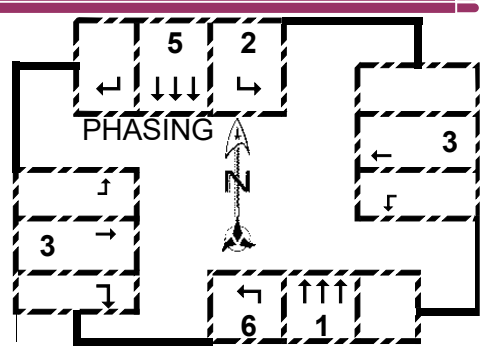
VOL DENSITY

MM-2-8

RECALL

PHASE	1	2	3	4	5	6	7	8
MOVEMENT	NBT	SBL	WBT	EBL	SBT	NBL	EBT	WBL
NOTES								
MIN GRN								
BK MGRN								
CS MGRN								
DLY GRN								
WALK								
WALK2								
WLK MAX								
PED CLR/FDW								
PD CLR2								
PC MAX								
PED CO								
VEH EXT								
VH EXT2								
MAX 1								
MAX 2								
MAX 3								
DYM MAX								
DYM STP								
YELLOW								
RED CLR								
RED MAX								
RED RVT								
ACT B4								
SEC/ACT								
MAX INT								
TIME B4								
CARS WT								
STPTDUC								
TTREDUC								
MIN GAP								
LOCK DET								
VEH RECALL								
PED RECALL								
MAX RECALL								
SOFT RECALL								
NO REST								
ADD INIT CAL								

9 10 11 12 13 14 15 16



1	2	3	4	5	6	7	8
59	34	37	34	81	12	37	34
0	0	0	0	0	0	0	0

SPLIT PLAN MAXIMUMS

NOTES

SCOTTSDALE & FASHION SQUARE

PHASE IN-USE/SEQ./ACT.

DATE DESIGNED

SYSTEM # 63 SECTION # 101

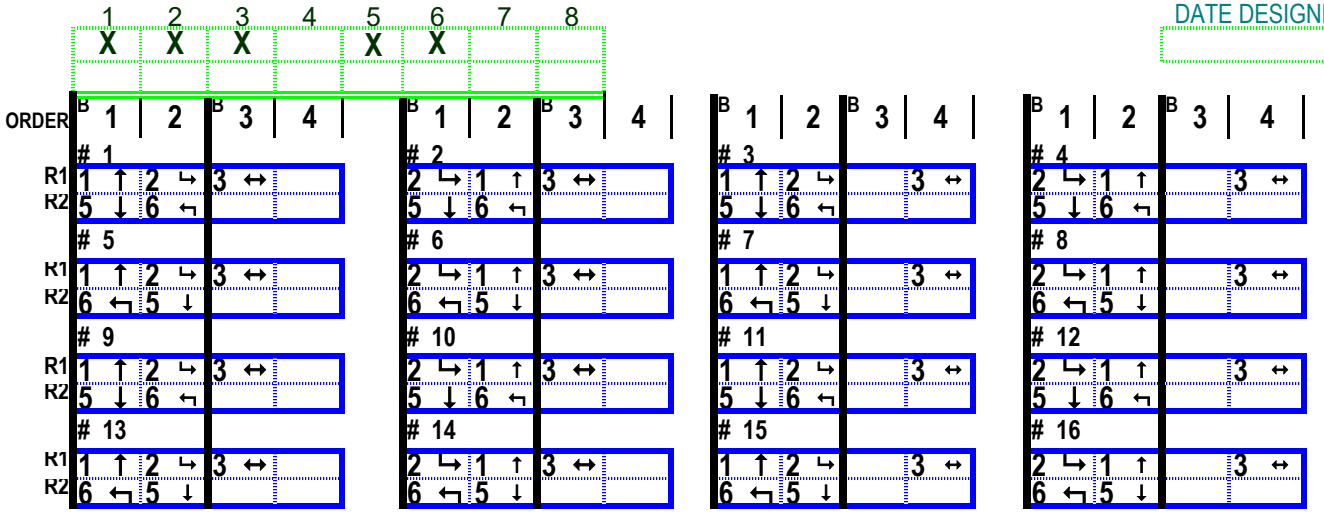
PHASE IN USE
MM-1-2 EXCLSV PED

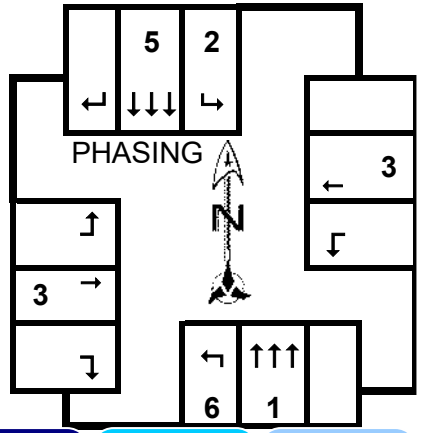
MM-1-1-1
CONTOLLER
SEQUENCES
SEQ. 1 - 4

SEQ. 5 - 8

SEQ. 9 - 12

SEQ. 13 - 16

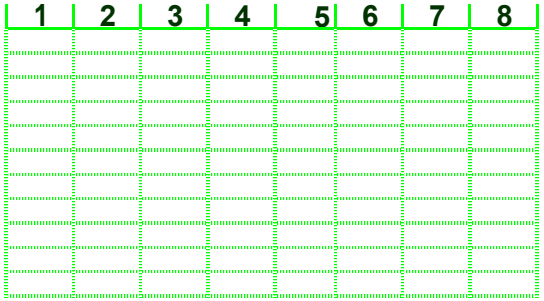




ACT.PLN#1 | ACT.PLN#4 | ACT.PLN#7 | ACT.PLN#10 | ACT.PLN#11 | ACT.PLN#15 | CLEARANCE | BASIC TIME | PATTERNS | HISTORY

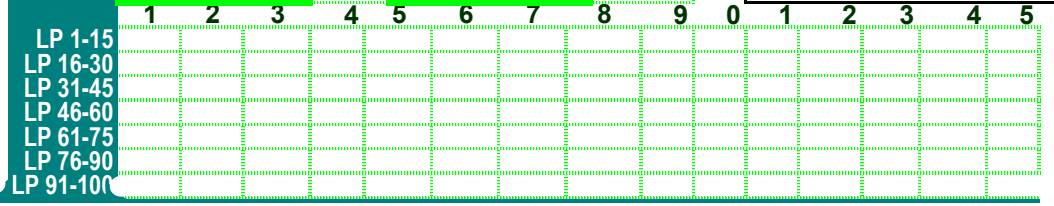
MM-5-2

ACTION PLAN #1
PHASE
PED RCL
WALK 1
VEX 1
VEH RCL
MAX RCL
MAX 2
MAX 3
CS INHBT
OMIT
SPC FCT
AUX FCT



PATTERN 12
TIMING PLAN
VEH DET PLAN
FLASH
VEH DET DIAG
DIMMING

SYS OVRRIDE
SEQUENCE 16
DET LOG
RED REST
PED DET DIAG



NOTES

USE SEQUENCE 16
AT ALL TIMES

SCOTTSDALE & FASHION SQUARE

PHASE IN-USE/SEQ./ACT.

DATE DESIGNED

SYSTEM # 63 SECTION # 101

PHASE IN USE
MM-1-2 EXCLSV PED

MM-1-1-1
CONTOLLER
SEQUENCES
SEQ. 1 - 4

SEQ. 5 - 8

SEQ. 9 - 12

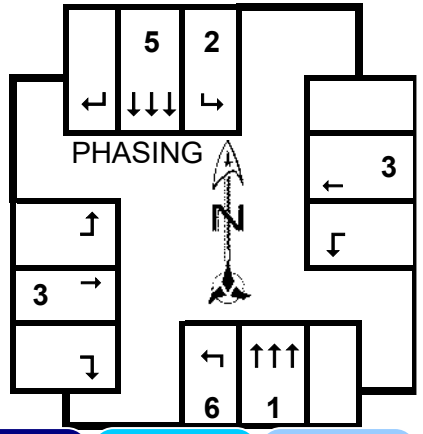
SEQ. 13 - 16

	1	2	3	4	5	6	7	8
	X	X	X		X	X		

ORDER

	B 1	2	B 3	4	B 1	2	B 3	4	B 1	2	B 3	4	B 1	2	B 3	4
	# 1				# 2				# 3				# 4			
R1	1 ↑	2 ↳	3 ↔		2 ↳	1 ↑	3 ↔		1 ↑	2 ↳	3 ↔		2 ↳	1 ↑	3 ↔	
R2	5 ↓	6 ↰			5 ↓	6 ↰			5 ↓	6 ↰			5 ↓	6 ↰		
	# 5				# 6				# 7				# 8			
R1	1 ↑	2 ↳	3 ↔		2 ↳	1 ↑	3 ↔		1 ↑	2 ↳	3 ↔		2 ↳	1 ↑	3 ↔	
R2	6 ↰	5 ↓			6 ↰	5 ↓			6 ↰	5 ↓			6 ↰	5 ↓		
	# 9				# 10				# 11				# 12			
R1	1 ↑	2 ↳	3 ↔		2 ↳	1 ↑	3 ↔		1 ↑	2 ↳	3 ↔		2 ↳	1 ↑	3 ↔	
R2	5 ↓	6 ↰			5 ↓	6 ↰			5 ↓	6 ↰			5 ↓	6 ↰		
	# 13				# 14				# 15				# 16			
R1	1 ↑	2 ↳	3 ↔		2 ↳	1 ↑	3 ↔		1 ↑	2 ↳	3 ↔		2 ↳	1 ↑	3 ↔	
R2	6 ↰	5 ↓			6 ↰	5 ↓			6 ↰	5 ↓			6 ↰	5 ↓		

PHASING



ACT.PLN#1 | ACT.PLN#4 | ACT.PLN#7 | ACT.PLN#10 | ACT.PLN#11 | ACT.PLN#15 | CLEARANCE | BASIC TIME | PATTERNS | HISTORY

MM-5-2

ACTION PLAN #4

PHASE	1	2	3	4	5	6	7	8
PED RCL								
WALK 1								
VEX 1								
VEH RCL								
MAX RCL								
MAX 2								
MAX 3								
CS INHBT								
OMIT								
SPC FCT								
AUX FCT								

PATTERN	43	SYS OVRRIDE	
TIMING PLAN		SEQUENCE	16
VEH DET PLAN		DET LOG	
FLASH		RED REST	
VEH DET DIAG		PED DET DIAG	
DIMMING			

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
LP 1-15															
LP 16-30															
LP 31-45															
LP 46-60															
LP 61-75															
LP 76-90															
LP 91-100															

NOTES

USE SEQUENCE 16
AT ALL TIMES

SCOTTSDALE & FASHION SQUARE

PHASE IN-USE/SEQ./ACT.

DATE DESIGNED

SYSTEM # 63 SECTION # 101

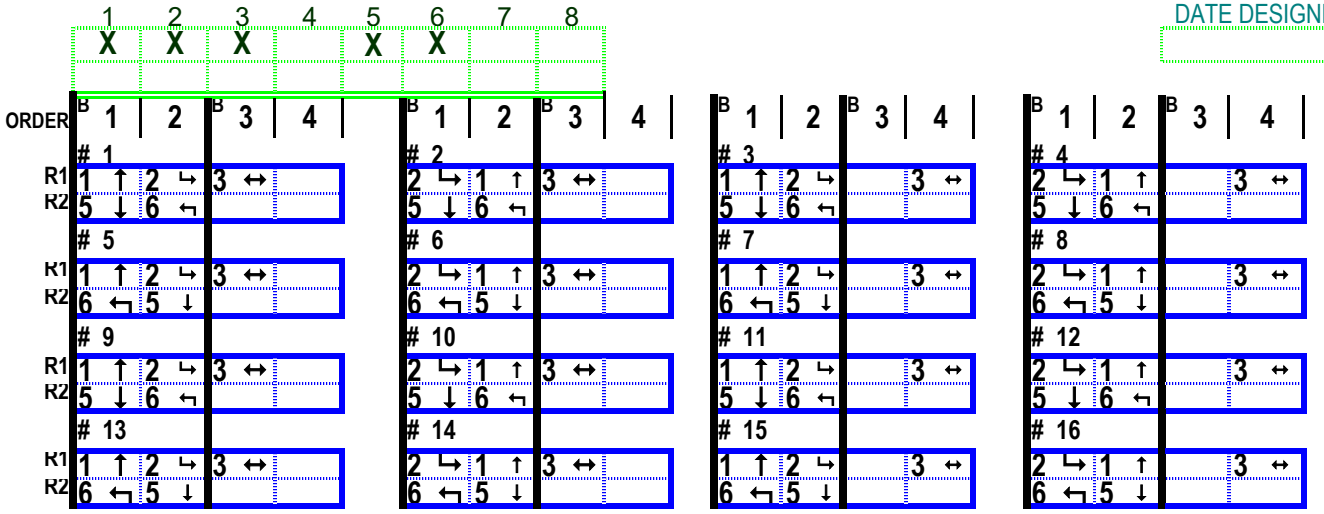
PHASE IN USE
MM-1-2 EXCLSV PED

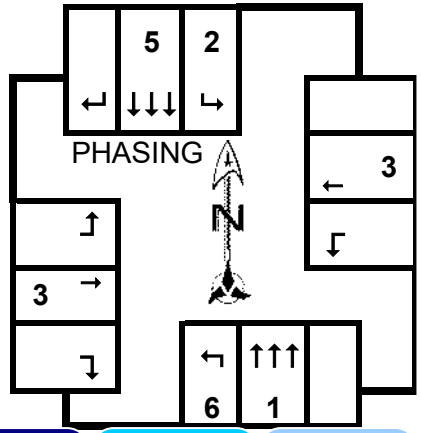
MM-1-1-1
CONTOLLER
SEQUENCES
SEQ. 1 - 4

SEQ. 5 - 8

SEQ. 9 - 12

SEQ. 13 - 16



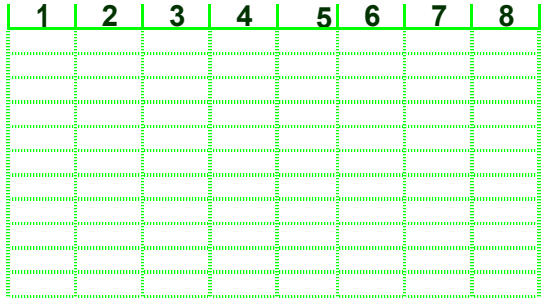


ACT.PLN#1 | ACT.PLN#4 | ACT.PLN#7 | ACT.PLN#10 | ACT.PLN#11 | ACT.PLN#15 | CLEARANCE | BASIC TIME | PATTERNS | HISTORY

MM-5-2

ACTION PLAN #7

PHASE
PED RCL
WALK 1
VEX 1
VEH RCL
MAX RCL
MAX 2
MAX 3
CS INHBT
OMIT
SPC FCT
AUX FCT



PATTERN	71	SYS OVRRIDE	
TIMING PLAN		SEQUENCE	16
VEH DET PLAN		DET LOG	
FLASH		RED REST	
VEH DET DIAG		PED DET DIAG	
DIMMING			

1 2 3 4 5 6 7 8 9 0 1 2 3 4 5

LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

NOTES

USE SEQUENCE 16
AT ALL TIMES

SCOTTSDALE & FASHION SQUARE

PHASE IN-USE/SEQ./ACT.

DATE DESIGNED

SYSTEM # 63 SECTION # 101

PHASE IN USE
MM-1-2 EXCLSV PED

MM-1-1-1
CONTOLLER
SEQUENCES
SEQ. 1 - 4

SEQ. 5 - 8

SEQ. 9 - 12

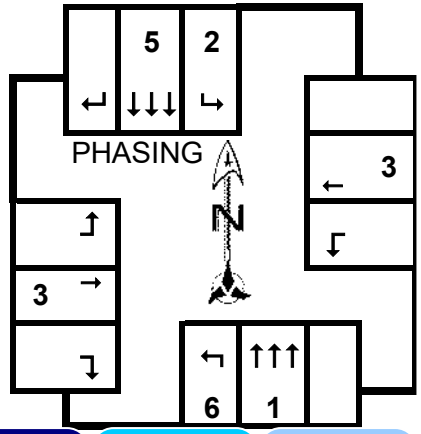
SEQ. 13 - 16

	1	2	3	4	5	6	7	8
	X	X	X		X	X		

ORDER

	B 1	2	B 3	4	B 1	2	B 3	4	B 1	2	B 3	4	B 1	2	B 3	4
	# 1				# 2				# 3				# 4			
R1	1	2	3		2	1	3		1	2	3		2	1	3	
R2	5	6			5	6			5	6			5	6		
	# 5				# 6				# 7				# 8			
R1	1	2	3		2	1	3		1	2	3		2	1	3	
R2	6	5			6	5			6	5			6	5		
	# 9				# 10				# 11				# 12			
R1	1	2	3		2	1	3		1	2	3		2	1	3	
R2	5	6			5	6			5	6			5	6		
	# 13				# 14				# 15				# 16			
R1	1	2	3		2	1	3		1	2	3		2	1	3	
R2	6	5			6	5			6	5			6	5		

PHASING



ACT.PLN#1 | ACT.PLN#4 | ACT.PLN#7 | ACT.PLN#10 | ACT.PLN#11 | ACT.PLN#15 | CLEARANCE | BASIC TIME | PATTERNS | HISTORY

MM-5-2

ACTION PLAN #10

	1	2	3	4	5	6	7	8
PHASE								
PED RCL								
WALK 1								
VEX 1								
VEH RCL								
MAX RCL								
MAX 2								
MAX 3								
CS INHBT								
OMIT								
SPC FCT								
AUX FCT								

PATTERN	103	SYS OVRRIDE	
TIMING PLAN		SEQUENCE	16
VEH DET PLAN		DET LOG	
FLASH		RED REST	
VEH DET DIAG		PED DET DIAG	
DIMMING			

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
LP 1-15															
LP 16-30															
LP 31-45															
LP 46-60															
LP 61-75															
LP 76-90															
LP 91-100															

NOTES

USE SEQUENCE 16
AT ALL TIMES

SCOTTSDALE & FASHION SQUARE

PHASE IN-USE/SEQ./ACT.

DATE DESIGNED

SYSTEM # 63 SECTION # 101

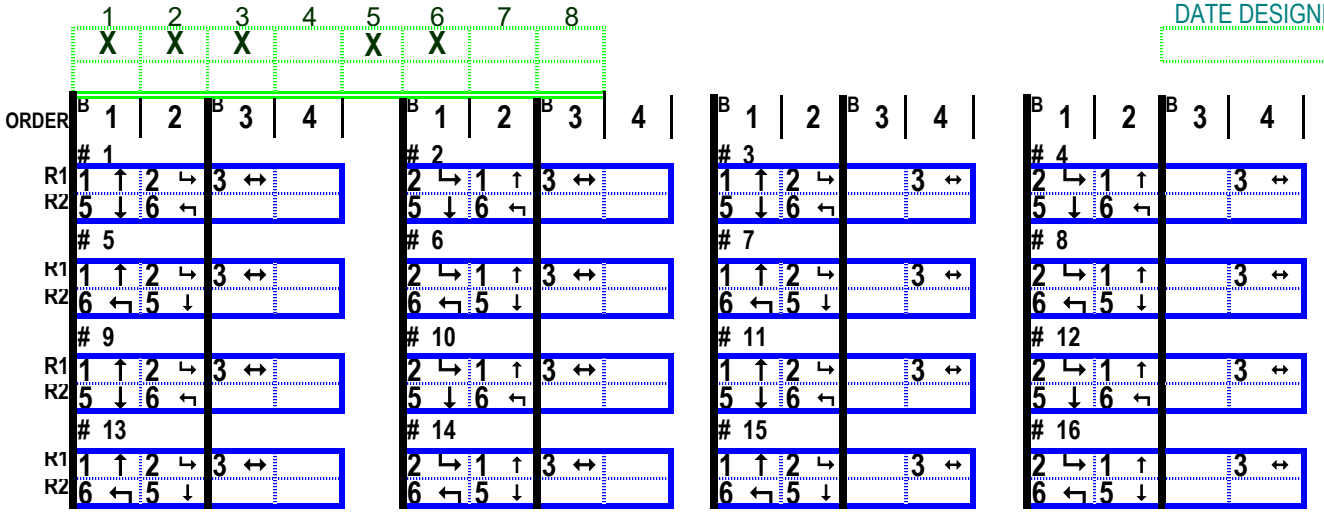
PHASE IN USE
MM-1-2 EXCLSV PED

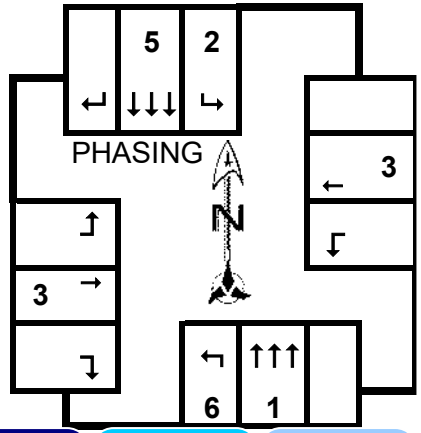
MM-1-1-1
CONTOLLER
SEQUENCES
SEQ. 1 - 4

SEQ. 5 - 8

SEQ. 9 - 12

SEQ. 13 - 16



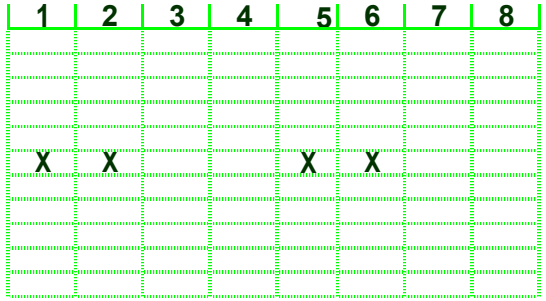


ACT.PLN#1 | ACT.PLN#4 | ACT.PLN#7 | ACT.PLN#10 | ACT.PLN#11 | ACT.PLN#15 | CLEARANCE | BASIC TIME | PATTERNS | HISTORY

MM-5-2

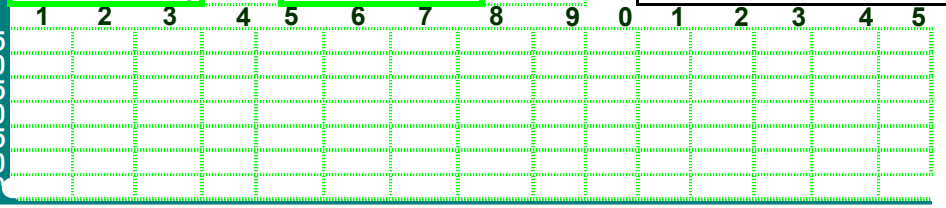
ACTION PLAN #11

PHASE
PED RCL
WALK 1
VEX 1
VEH RCL
MAX RCL
MAX 2
MAX 3
CS INHBT
OMIT
SPC FCT
AUX FCT



PATTERN
TIMING PLAN
VEH DET PLAN
FLASH
VEH DET DIAG
DIMMING

SYS OVRRIDE
SEQUENCE 16
DET LOG
RED REST
PED DET DIAG



NOTES

USE SEQUENCE 16
AT ALL TIMES

SCOTTSDALE & FASHION SQUARE

PHASE IN-USE/SEQ./ACT.

DATE DESIGNED

SYSTEM # 63 SECTION # 101

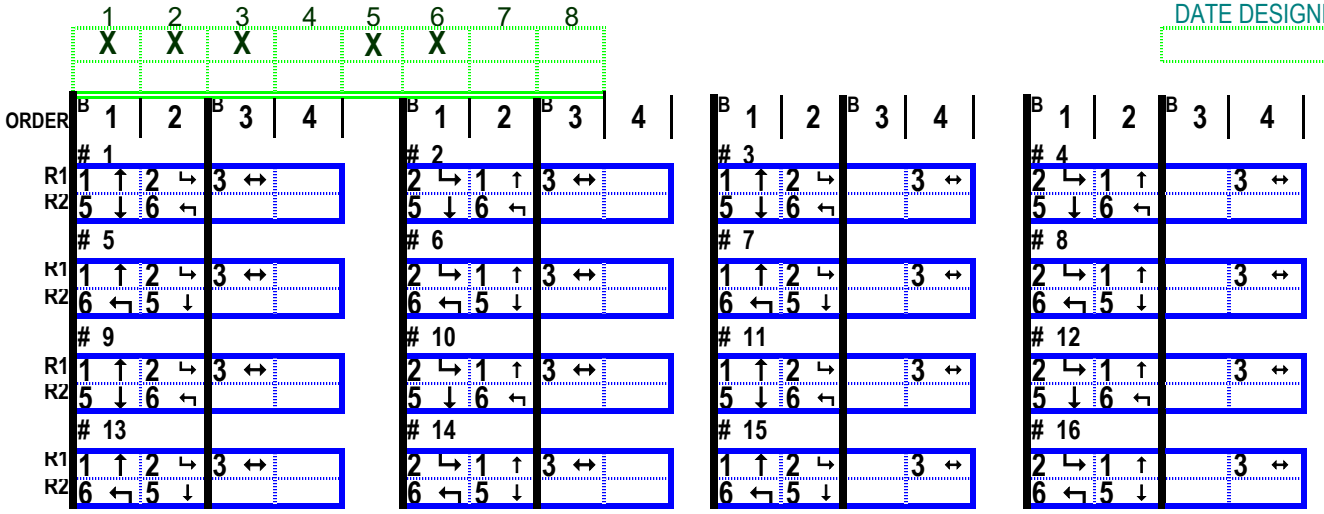
PHASE IN USE
MM-1-2 EXCLSV PED

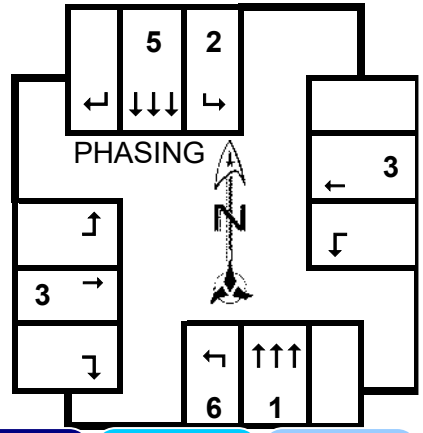
MM-1-1-1
CONTOLLER
SEQUENCES
SEQ. 1 - 4

SEQ. 5 - 8

SEQ. 9 - 12

SEQ. 13 - 16



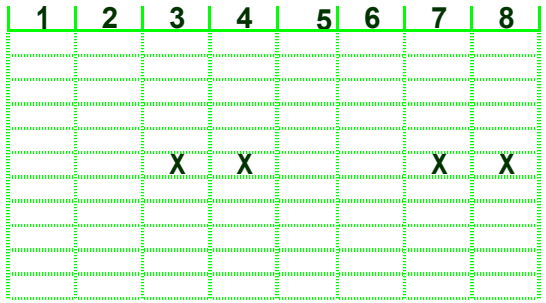


ACT.PLN#1 | ACT.PLN#4 | ACT.PLN#7 | ACT.PLN#10 | ACT.PLN#11 | ACT.PLN#15 | CLEARANCE | BASIC TIME | PATTERNS | HISTORY

MM-5-2

ACTION PLAN #15

PHASE
PED RCL
WALK 1
VEX 1
VEH RCL
MAX RCL
MAX 2
MAX 3
CS INHBT
OMIT
SPC FCT
AUX FCT



PATTERN	SYS OVRRIDE
TIMING PLAN	SEQUENCE 16
VEH DET PLAN	DET LOG
FLASH	RED REST
VEH DET DIAG	PED DET DIAG
DIMMING	

LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

1 2 3 4 5 6 7 8 9 0 1 2 3 4 5

NOTES

USE SEQUENCE 16
AT ALL TIMES

SCOTTSDALE & FASHION SQUARE

COORDINATOR PATTERNS

CLEARANCES

	PH1	2	3	4	5	6	7	8
FDW	10	0	20	0	10	0	0	0
YELLOW	4.5	3.0	3.1	0.0	4.5	3.0	0.0	0.0
ALL RED	1.5	1.0	3.9	0.0	1.5	1.0	0.0	0.0

SYSTEM # 63

SECTION # 101

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 # 16

ACTION PLAN #

SEQUENCE

R1: 2 ↳ | 1 ↑ | | 3 ↔

R2: 6 ↰ | 5 ↓ | |

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

N/S

MM-3-2 AVAILABLE COORDINATOR PATTERN #s

PROGRESSION VALUES

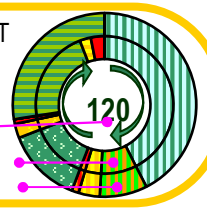
HYPERLINKS TO MORNING TIME-SPACE DIAGRAMS

PLAN # 1

DATE EFFECTIVE 8/30/2001

OPERATIVE TIMES 0630-0900

MOVEMENTS	NBT	SBL	EWT	SBT	NBL
	RING 1			RING 2	
PHASE	1	2	3	4	5	6	7	8	TARGET
SPLIT	67	20	33		67	20	33		120
COORD	X				X				ACTUAL CYCLE
RECALLS (V, P, Mx)	P				P				
GREEN	61	16	26	0	61	16	33	0	RING 1



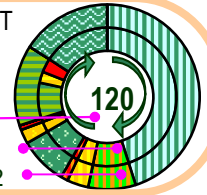
AVAILABLE COORDINATOR PATTERN #s: 1 1, 1 2, 1 3, 1 4, 1 5, 1 6

PLAN # 2

DATE EFFECTIVE 3/30/2009

OPERATIVE TIMES

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET
SPLIT	70	14	17	19	70	14	17	19	120
COORD	X				X				ACTUAL CYCLE
RECALLS (V, P, Mx)	P				P				
GREEN	64	10	10	19	64	10	17	19	RING 1
									RING 2



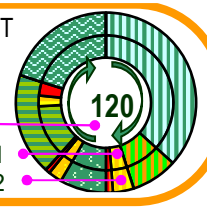
AVAILABLE COORDINATOR PATTERN #s: 2 1, 2 2, 2 3, 2 4, 2 5, 2 6

PLAN # 3

DATE EFFECTIVE 3/30/2009

OPERATIVE TIMES

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET
SPLIT	60	14	22	24	60	14	22	24	120
COORD	X				X				ACTUAL CYCLE
RECALLS (V, P, Mx)	P				P				
GREEN	54	10	15	24	54	10	22	24	RING 1
									RING 2



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	38
2	SB	38
3	NS	38
4	EB	35
5	WB	35
6	EW	35

SCOTTSDALE & FASHION SQUARE

COORDINATOR PATTERNS

CLEARANCES

	PH1	2	3	4	5	6	7	8
FDW	10	0	20	0	10	0	0	0
YELLOW	4.5	3.0	3.1	0.0	4.5	3.0	0.0	0.0
ALL RED	1.5	1.0	3.9	0.0	1.5	1.0	0.0	0.0

SYSTEM # 63

SECTION # 101

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

CLEARANCE | BASIC TIME | SEQUENCE | HISTORY

MM-3-3 MID-DAY SPLIT PATTERNS

TIMING PLAN 1

SEQUENCE 16

ACTION PLAN

R1	2 ↦	1 ↑	3 ↔
R2	6 ↤	5 ↓	

MOVEMENTS NBT SBL EWT SBT NBL

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

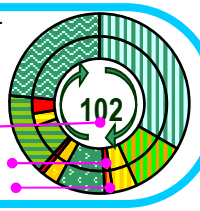
N/S

PLAN # 4

DATE EFFECTIVE 8/30/2001

OPERATIVE TIMES 0900-1530 1830-2100

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	50	13	15	24	50	13	15	24	102
COORD	x				x				ACTUAL CYCLE
RECALLS (V, P, Mx)	P				P				
GREEN	44	9	8	24	44	9	15	24	RING 1



PLAN # 5

DATE EFFECTIVE 3/30/2009

OPERATIVE TIMES as needed

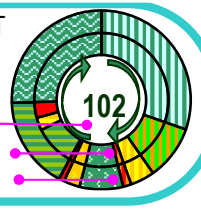
	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	53	15	15	19	53	15	15	19	102
COORD	x				x				ACTUAL CYCLE
RECALLS (V, P, Mx)	P				P				
GREEN	47	11	8	19	47	11	15	19	RING 1
									RING 2

PLAN # 6

DATE EFFECTIVE 3/30/2009

OPERATIVE TIMES as needed

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	47	12	17	26	47	12	17	26	102
COORD	x				x				ACTUAL CYCLE
RECALLS (V, P, Mx)	P				P				
GREEN	41	8	10	26	41	8	17	26	RING 1
									RING 2



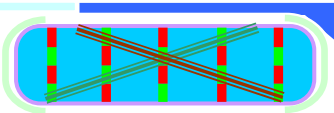
MM-3-2

AVAILABLE COORDINATOR PATTERN #s

4 1 | 4 2 | 4 3 | 4 4 | 4 5 | 4 6

5 1 | 5 2 | 5 3 | 5 4 | 5 5 | 5 6

6 1 | 6 2 | 6 3 | 6 4 | 6 5 | 6 6



PROGRESSION VALUES

	DIR CODE	COORD DIR	B.O.G. OFFSET
1	1	NB	35
2	2	SB	35
3	3	NS	35
4	4	EB	35
5	5	WB	35
6	6	EW	35

HYPERLINKS TO MID-DAY TIME-SPACE DIAGRAMS

1 | 2 | 3 | 4 | 5 | 6

SCOTTSDALE & FASHION SQUARE

COORDINATOR PATTERNS

CLEARANCES

	PH1	2	3	4	5	6	7	8
FDW	10	0	20	0	10	0	0	0
YELLOW	4.5	3.0	3.1	0.0	4.5	3.0	0.0	0.0
ALL RED	1.5	1.0	3.9	0.0	1.5	1.0	0.0	0.0

SYSTEM # 63

SECTION # 101

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

CLEARANCE | BASIC TIME | SEQUENCE | HISTORY

MM-3-3 EVENING SPLIT PATTERNS

TIMING PLAN 1
SEQUENCE 16
ACTION PLAN

R1	2 ↦	1 ↑		3 ↔
R2	6 ↤	5 ↓		

MOVEMENTS NBT SBL EWT SBT NBL

SEQUENCE

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

N/S

MM-3-2

AVAILABLE COORDINATOR PATTERN #s

PROGRESSION VALUES

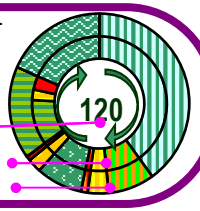
HYPERLINKS TO EVENING TIME-SPACE DIAGRAMS

PLAN # 7

DATE EFFECTIVE 8/30/2001

OPERATIVE TIMES 1530-1830

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET
SPLIT	64	14	20	22	64	14	20	22	120
COORD	X				X				ACTUAL CYCLE
RECALLS (V, P, Mx)	P				P				
GREEN	58	10	13	22	58	10	20	22	RING 1



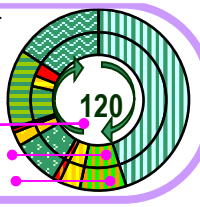
AVAILABLE COORDINATOR PATTERN #s: 7 1, 7 2, 7 3, 7 4, 7 5, 7 6

PLAN # 8

DATE EFFECTIVE

OPERATIVE TIMES

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET
SPLIT	70	14	17	19	70	14	17	19	120
COORD	X				X				ACTUAL CYCLE
RECALLS (V, P, Mx)	P				P				
GREEN	64	10	10	19	64	10	17	19	RING 1
									RING 2



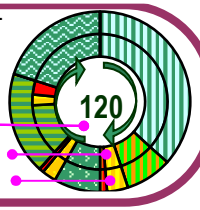
AVAILABLE COORDINATOR PATTERN #s: 8 1, 8 2, 8 3, 8 4, 8 5, 8 6

PLAN # 9

DATE EFFECTIVE

OPERATIVE TIMES

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET
SPLIT	60	14	22	24	60	14	22	24	120
COORD	X				X				ACTUAL CYCLE
RECALLS (V, P, Mx)	P				P				
GREEN	54	10	15	24	54	10	22	24	RING 1
									RING 2



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	35
2	SB	35
3	NS	35
4	EB	35
5	WB	35
6	EW	35

SCOTTSDALE & FASHION SQUARE

COORDINATOR PATTERNS

CLEARANCES

	PH1	2	3	4	5	6	7	8
FDW	10	0	20	0	10	0	0	0
YELLOW	4.5	3.0	3.1	0.0	4.5	3.0	0.0	0.0
ALL RED	1.5	1.0	3.9	0.0	1.5	1.0	0.0	0.0

SYSTEM # 63

SECTION # 101

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

CLEARANCE | BASIC TIME | SEQUENCE | HISTORY

MM-3-3 MID-NIGHT SPLIT PATTERNS

TIMING PLAN 1

SEQUENCE 16

ACTION PLAN

SEQUENCE

R1: 2 ↳ | 1 ↑ | | 3 ↔

R2: 6 ↰ | 5 ↓ | |

MOVEMENTS NBT SBL EWT SBT NBL

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

N/S

MM-3-2 AVAILABLE COORDINATOR PATTERN #s

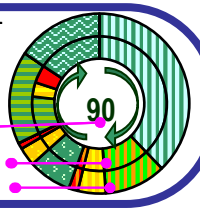
HYPERLINKS TO MID-NITE TIME-SPACE DIAGRAMS

PLAN # 10

DATE EFFECTIVE 8/30/2001

OPERATIVE TIMES 2000-0630

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	50	11	15	14	50	11	15	14	90
COORD	X				X				ACTUAL CYCLE
RECALLS (V, P, Mx)	P				P				
GREEN	44	7	8	14	44	7	15	14	RING 1



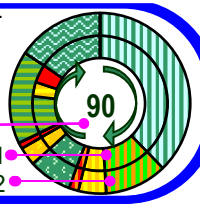
10 1 | 10 2 | 10 3 | 10 4 | 10 5 | 10 6

PLAN # 110

DATE EFFECTIVE

OPERATIVE TIMES

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	50	11	15	14	50	11	15	14	90
COORD	X				X				ACTUAL CYCLE
RECALLS (V, P, Mx)	P				P				
GREEN	44	7	8	14	44	7	15	14	RING 1
									RING 2



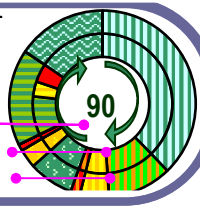
11 1 | 11 2 | 11 3

PLAN # 111

DATE EFFECTIVE

OPERATIVE TIMES

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	50	11	15	14	50	11	15	14	90
COORD	X				X				ACTUAL CYCLE
RECALLS (V, P, Mx)	P				P				
GREEN	44	7	8	14	44	7	15	14	RING 1
									RING 2



11 4 | 11 5 | 11 6

PROGRESSION VALUES

DIR CODE	COORD DIR	B.O.G. OFFSET
1	NB	42
2	SB	42
3	NS	42
4	EB	42
5	WB	42
6	EW	42

SCOTTSDALE & FASHION SQUARE

COORDINATOR PATTERNS

CLEARANCES

	PH1	2	3	4	5	6	7	8
FDW	10	0	20	0	10	0	0	0
YELLOW	4.5	3.0	3.1	0.0	4.5	3.0	0.0	0.0
ALL RED	1.5	1.0	3.9	0.0	1.5	1.0	0.0	0.0

SYSTEM # 63

SECTION # 101

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

CLEARANCE | BASIC TIME | SEQUENCE | HISTORY

EXTREME

TIMING PLAN 1
SEQUENCE 16
ACTION PLAN 11

SEQUENCE
R1: 2 ↳ | 1 ↑ | | 3 ↔
R2: 6 ↰ | 5 ↓ | |

MOVEMENTS: NBT | SBL | EWT | SBT | NBL

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

AVAILABLE COORDINATOR PATTERN #s

PROGRESSION VALUES

DIR CODE	COORD DIR	B.O.G. OFFSET	
7	NB	35	7
8	SB	35	8
9	NS	35	9

HYPERLINKS TO N/S EX TIME-SPACE DIAGRAMS

PLAN # 11
DATE EFFECTIVE

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	81	12	15	12	81	12	15	12	120
COORD	X				X				ACTUAL CYCLE
RECALLS (V. P. Mx)	P				P				RING 1
GREEN	75	8	8	12	75	8	15	12	RING 2

120

AVAILABLE COORDINATOR PATTERN #s: 17, 18, 19

PLAN # 12
DATE EFFECTIVE

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	59	34	15	12	59	34	15	12	120
COORD	X				X				ACTUAL CYCLE
RECALLS (V. P. Mx)	P	M			P	M			RING 1
GREEN	53	30	8	12	53	30	15	12	RING 2

120

AVAILABLE COORDINATOR PATTERN #s: 27, 28, 29

PLAN # 13
DATE EFFECTIVE

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	81	12	15	12	59	34	15	12	120
COORD	X				X				ACTUAL CYCLE
RECALLS (V. P. Mx)	P				P	M			RING 1
GREEN	75	8	8	12	53	30	15	12	RING 2

120

AVAILABLE COORDINATOR PATTERN #s: 37, 38, 39

PLAN # 14
DATE EFFECTIVE

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	59	34	15	12	81	12	15	12	120
COORD	X				X				ACTUAL CYCLE
RECALLS (V. P. Mx)	P	M			P				RING 1
GREEN	53	30	8	12	75	8	15	12	RING 2

120

AVAILABLE COORDINATOR PATTERN #s: 47, 48, 49

SCOTTSDALE & FASHION SQUARE

COORDINATOR PATTERNS

CLEARANCES

	PH1	2	3	4	5	6	7	8
FDW	10	0	20	0	10	0	0	0
YELLOW	4.5	3.0	3.1	0.0	4.5	3.0	0.0	0.0
ALL RED	1.5	1.0	3.9	0.0	1.5	1.0	0.0	0.0

SYSTEM # 63

SECTION # 101

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

CLEARANCE | BASIC TIME | SEQUENCE | HISTORY

EXTREME

TIMING PLAN 1
SEQUENCE 16
ACTION PLAN 15

MOVEMENTS NBT SBL EWT

SEQUENCE
R1: 2 ↳ | 1 ↑ | | 3 ↦
R2: 6 ↰ | 5 ↓ | | |
SBT NBL

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

AVAILABLE COORDINATOR PATTERN #s

PROGRESSION VALUES

DIR CODE	COORD DIR	B.O.G. OFFSET
7	EB	35
8	WB	35
9	EW	35

HYPERLINKS TO E/W EX TIME-SPACE DIAGRAMS

PLAN # 15 DATE EFFECTIVE

	RING 1				RING 2				TARGET CYCLE
PHASE	1	2	3	4	5	6	7	8	
SPLIT	54	12	32	22	54	12	32	22	120
COORD	X				X				ACTUAL
RECALLS (V, P, Mx)	P		M		P		M		CYCLE
GREEN	48	8	25	22	48	8	32	22	RING 1 / RING 2

120

AVAILABLE COORDINATOR PATTERN #s: 5 7 / 5 8 / 5 9

PLAN # 16 DATE EFFECTIVE

	RING 1				RING 2				TARGET CYCLE
PHASE	1	2	3	4	5	6	7	8	
SPLIT	51	12	23	34	51	12	23	34	120
COORD	X				X				ACTUAL
RECALLS (V, P, Mx)	P		M		P		M		CYCLE
GREEN	45	8	16	34	45	8	23	34	RING 1 / RING 2

120

AVAILABLE COORDINATOR PATTERN #s: 6 7 / 6 8 / 6 9

PLAN # 17 DATE EFFECTIVE

	RING 1				RING 2				TARGET CYCLE
PHASE	1	2	3	4	5	6	7	8	
SPLIT	51	12	23	34	51	12	37	20	120
COORD	X				X				ACTUAL
RECALLS (V, P, Mx)	P		M		P		M		CYCLE
GREEN	45	8	16	34	45	8	37	20	RING 1 / RING 2

120

AVAILABLE COORDINATOR PATTERN #s: 7 7 / 7 8 / 7 9

PLAN # 18 DATE EFFECTIVE

	RING 1				RING 2				TARGET CYCLE
PHASE	1	2	3	4	5	6	7	8	
SPLIT	51	12	37	20	51	12	23	34	120
COORD	X				X				ACTUAL
RECALLS (V, P, Mx)	P		M		P		M		CYCLE
GREEN	45	8	30	20	45	8	23	34	RING 1 / RING 2

120

AVAILABLE COORDINATOR PATTERN #s: 8 7 / 8 8 / 8 9

SCOTTSDALE & FASHION SQUARE

TIMING HISTORY

CLEARANC | BASIC TIME | SEQUENCE | PATTERNS

DATE OF CHANGE	BRIEF DESCRIPTION OF CHANGE	OTHER NOTES	REQUESTED BY:

PREVIOUS SPLIT PLANS 

PREVIOUS PHASING 

SCOTTSDALE & HIGHLAND

FIELD DATA - CLEARANCES

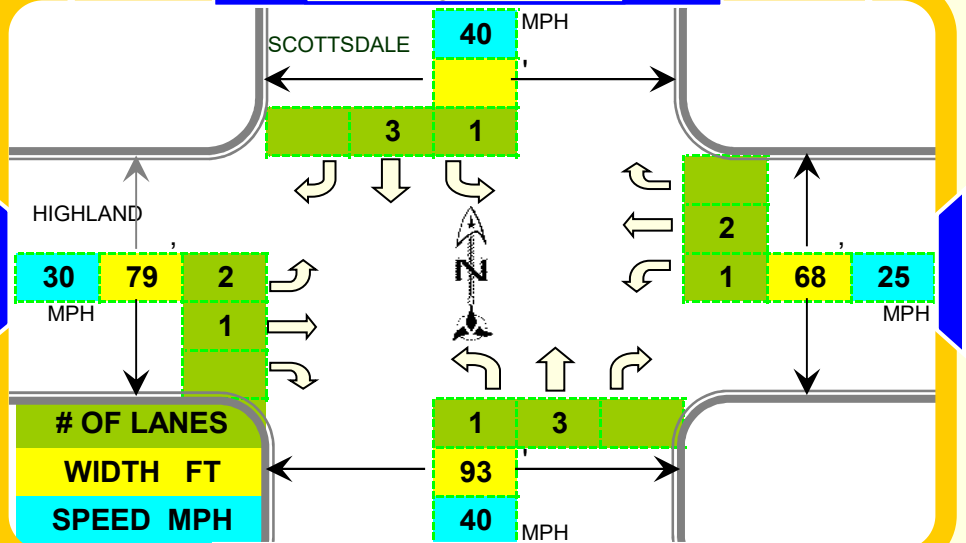
N/S STREET	E/W STREET	DATE MEASURED	SYSTEM #	SECTION #	PED SPEED	VEH LENGTH	REACT TIME	ACCEL.
		11/4/2010	64	721	3.5	18	1	10

BASIC TIME | SEQUENCE | PATTERNS | HISTORY

INTERSECTION GEOMETRICS

AERIAL PHOTO

MEASUREMENTS



CALCULATIONS

INTERVAL	FORMULAS	N/S	E/W	N/S	E/W	EXCESS TIME>	N/S	E/W	TOTALS	
F.D.W.	= (Width-6)/PedSpeed-(AllRed+Yellow)	15.27	18.63	16	19		0.73	0.37	1.10	
YELLOW	= ReactionTime+(Speed/(2*Accel))	3.93	3.20	4.2	3.6		0.27	0.40	0.67	
ALL-RED	= (Width+LenghVehicle)/Speed	1.65	3.03	1.8	3.4		0.15	0.37	0.52	2.29
		CALC		ROUNDED - UP						

SCOTTSDALE & HIGHLAND

BASIC TIMING PLANS

RECOMMENDED CLEARANCES

	N/S	E/W	LEFT TURN	DATE DESIGNED
F.D.W.	16	19	STANDARD	11/4/2010
YELLOW	4.2	3.6	3.0	SYSTEM # / SECTION #
ALL-RED	1.8	3.4	1.0	64 / 721

COMMUNICATIONS I.P. ADDRESS
MM-1-5-1 172.17. 10.64

TIMING #1 | TIMING #2 | TIMING #3 | TIMING #4
CLEARANCE | SEQUENCE | PATTERNS | HISTORY

MM-2-1
TIMING PLAN

GREENS

PEDESTRIAN

MAXIMUMS

REDS

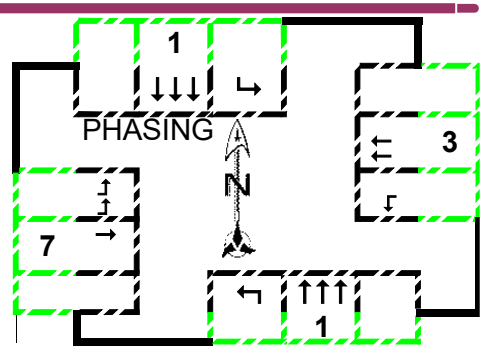
VOL DENSITY

MM-2-8

RECALL

PHASE	1	3	7
MOVEMENT	NST	WBT	EBT
NOTES			
MIN GRN	10	6	8
BK MGRN			
CS MGRN			
DLY GRN			
WALK	14	6	6
WALK2			
WLK MAX			
PED CLR/FDW	16	19	19
PD CLR2			
PC MAX			
PED CO			
VEH EXT		2	3
VH EXT2			
MAX 1	80	15	35
MAX 2	85	30	40
MAX 3			
DYM MAX			
DYM STP			
YELLOW	4.2	2.9	3.4
RED CLR	1.8	3.1	2.6
RED MAX			
RED RVT	2	2	2
ACT B4			
SEC/ACT			
MAX INT			
TIME B4			
CARS WT			
STPTDUC			
TTREDUC			
MIN GAP			
LOCK DET			
VEH RECALL			
PED RECALL	X		
MAX RECALL			
SOFT RECALL			
NO REST			
ADD INIT CAL			

9 10 11 12 13 14 15 16



1	2	3	4	5	6	7	8
78	0	11	35	84	0	29	17
72	0	28	46	78	0	40	34

SPLIT PLAN MAXIMUMS

NOTES

PHS 3 & 7 *MUST* BE EXCLUSIVE. ALWAYS USE SEQ 3 OR 9. CHANGE ALL SEQS TO MATCH EITHER #3 OR #9 AND PLACE BARRIER BETWEEN PH3 & PH7

SCOTTSDALE & HIGHLAND

BASIC TIMING PLANS

RECOMMENDED CLEARANCES

	N/S	E/W	LEFT TURN	DATE DESIGNED
F.D.W.	16	19	STANDARD	11/4/2010
YELLOW	4.2	3.6	3.0	SYSTEM # / SECTION #
ALL-RED	1.8	3.4	1.0	64 / 721

COMMUNICATIONS I.P. ADDRESS
MM-1-5-1 172.17. 10.64

TIMING #1 | TIMING #2 | TIMING #3 | TIMING #4
CLEARANCE | SEQUENCE | PATTERNS | HISTORY

MM-2-1
TIMING PLAN

GREENS

PEDESTRIAN

MAXIMUMS

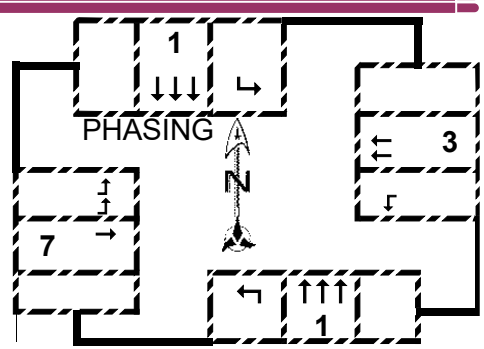
REDS

VOL DENSITY

MM-2-8

RECALL

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MOVEMENT	NBT	SBL	WBT	EBL	SBT	NBL	EBT	WBL								
NOTES																
MIN GRN																
BK MGRN																
CS MGRN																
DLY GRN																
WALK																
WALK2																
WLK MAX																
PED CLR/FDW																
PD CLR2																
PC MAX																
PED CO																
VEH EXT																
VH EXT2																
MAX 1																
MAX 2																
MAX 3																
DYM MAX																
DYM STP																
YELLOW																
RED CLR																
RED MAX																
RED RVT																
ACT B4																
SEC/ACT																
MAX INT																
TIME B4																
CARS WT																
STPTDUC																
TTREDUC																
MIN GAP																
LOCK DET																
VEH RECALL																
PED RECALL																
MAX RECALL																
SOFT RECALL																
NO REST																
ADD INIT CAL																



1	2	3	4	5	6	7	8
78	4	2	0	0	0	0	0
61	0	0	0	0	0	0	0

SPLIT PLAN MAXIMUMS

NOTES

SCOTTSDALE & HIGHLAND

BASIC TIMING PLANS

RECOMMENDED CLEARANCES

	N/S	E/W	LEFT TURN	DATE DESIGNED
F.D.W.	16	19	STANDARD	11/4/2010
YELLOW	4.2	3.6	3.0	SYSTEM # / SECTION #
ALL-RED	1.8	3.4	1.0	64 / 721

COMMUNICATIONS I.P. ADDRESS
MM-1-5-1 172.17. 10.64

TIMING #1 | TIMING #2 | TIMING #3 | TIMING #4
CLEARANCE | SEQUENCE | PATTERNS | HISTORY

MM-2-1 TIMING PLAN

GREENS

PEDESTRIAN

MAXIMUMS

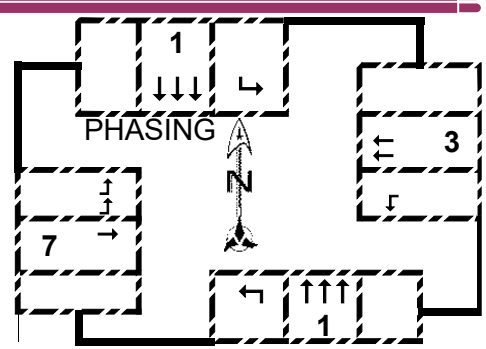
REDS

VOL DENSITY

MM-2-8 RECALL

PHASE	1	2	3	4	5	6	7	8
MOVEMENT	NBT	SBL	WBT	EBL	SBT	NBL	EBT	WBL
NOTES								
MIN GRN								
BK MGRN								
CS MGRN								
DLY GRN								
WALK								
WALK2								
WLK MAX								
PED CLR/FDW								
PD CLR2								
PC MAX								
PED CO								
VEH EXT								
VH EXT2								
MAX 1								
MAX 2								
MAX 3								
DYM MAX								
DYM STP								
YELLOW								
RED CLR								
RED MAX								
RED RVT								
ACT B4								
SEC/ACT								
MAX INT								
TIME B4								
CARS WT								
STPTDUC								
TTREDUC								
MIN GAP								
LOCK DET								
VEH RECALL								
PED RECALL								
MAX RECALL								
SOFT RECALL								
NO REST								
ADD INIT CAL								

9 10 11 12 13 14 15 16



1	2	3	4	5	6	7	8
1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0

SPLIT PLAN MAXIMUMS

NOTES

SCOTTSDALE & HIGHLAND

BASIC TIMING PLANS

RECOMMENDED CLEARANCES

	N/S	E/W	LEFT TURN	DATE DESIGNED
F.D.W.	16	19	STANDARD	11/4/2010
YELLOW	4.2	3.6	3.0	SYSTEM # / SECTION #
ALL-RED	1.8	3.4	1.0	64 / 721

COMMUNICATIONS I.P. ADDRESS
MM-1-5-1 172.17. 10.64

TIMING #1 | TIMING #2 | TIMING #3 | TIMING #4
CLEARANCE | SEQUENCE | PATTERNS | HISTORY

MM-2-1
TIMING PLAN

GREENS

PEDESTRIAN

MAXIMUMS

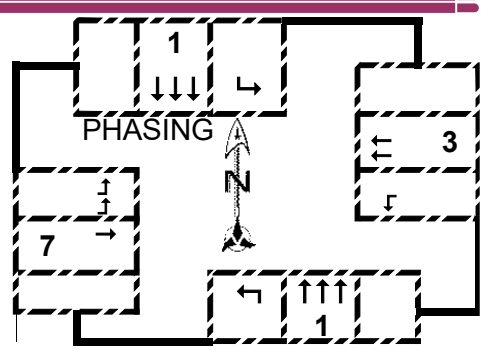
REDS

VOL DENSITY

MM-2-8

RECALL

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MOVEMENT	NBT	SBL	WBT	EBL	SBT	NBL	EBT	WBL								
NOTES																
MIN GRN																
BK MGRN																
CS MGRN																
DLY GRN																
WALK																
WALK2																
WLK MAX																
PED CLR/FDW																
PD CLR2																
PC MAX																
PED CO																
VEH EXT																
VH EXT2																
MAX 1																
MAX 2																
MAX 3																
DYM MAX																
DYM STP																
YELLOW																
RED CLR																
RED MAX																
RED RVT																
ACT B4																
SEC/ACT																
MAX INT																
TIME B4																
CARS WT																
STPTDUC																
TTREDUC																
MIN GAP																
LOCK DET																
VEH RECALL																
PED RECALL																
MAX RECALL																
SOFT RECALL																
NO REST																
ADD INIT CAL																



1	2	3	4	5	6	7	8
78	0	34	46	78	0	46	34
0	0	0	0	0	0	0	0

SPLIT PLAN MAXIMUMS

NOTES

SCOTTSDALE & HIGHLAND

PHASE IN-USE/SEQ./ACT.

CITY OF SCOTTSDALE

DATE DESIGNED	SYSTEM #	SECTION #
11/4/2010	64	721

PHASE IN USE

	1	2	3	4	5	6	7	8
PHASE IN USE	X		X				X	
MM-1-2 EXCLSV PED								

MM-1-1-1 CONTOLLER SEQUENCES

ORDER: B 1 | 2 B 3 B 4

SEQ. 1 - 4

Seq	Ring	1	2	3	4
# 1	R1	1 ↕		3 ←	
	R2				7 →
# 2	R1		1 ↕		3 ←
	R2			7 →	
# 3	R1	1 ↕			3 ←
	R2			7 →	
# 4	R1		1 ↕		3 ←
	R2			7 →	

SEQ. 5 - 8

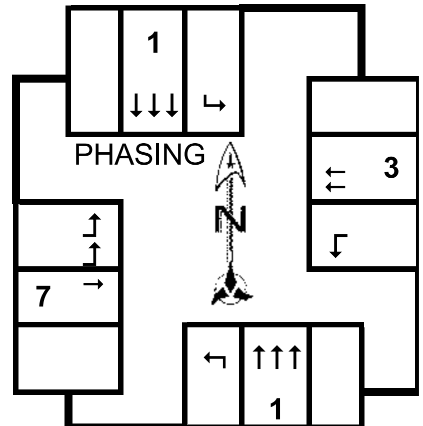
Seq	Ring	1	2	3	4
# 7	R1	1 ↕			3 ←
	R2			7 →	
# 8	R1		1 ↕		3 ←
	R2			7 →	
# 7	R1	1 ↕			3 ←
	R2			7 →	
# 8	R1		1 ↕		3 ←
	R2			7 →	

SEQ. 9 - 12

Seq	Ring	1	2	3	4
# 9	R1	1 ↕		3 ←	
	R2				7 →
# 10	R1		1 ↕	3 ←	
	R2				7 →
# 11	R1	1 ↕		3 ←	
	R2				7 →
# 12	R1		1 ↕	3 ←	
	R2				7 →

SEQ. 13 - 16

Seq	Ring	1	2	3	4
# 13	R1	1 ↕		3 ←	
	R2				7 →
# 14	R1		1 ↕	3 ←	
	R2				7 →
# 13	R1	1 ↕		3 ←	
	R2				7 →
# 14	R1		1 ↕	3 ←	
	R2				7 →



ACT.PLN#1 | ACT.PLN#4 | ACT.PLN#7 | ACT.PLN#10 | ACT.PLN#11 | ACT.PLN#15 | CLEARANCE | BASIC TIME | PATTERNS | HISTORY

MM-5-2

ACTION PLAN #1

PHASE	1	2	3	4	5	6	7	8
PED RCL								
WALK 1								
VEX 1								
VEH RCL								
MAX RCL								
MAX 2								
MAX 3								
CS INHBT								
OMIT								
SPC FCT								
AUX FCT								

PATTERN	12
TIMING PLAN	
VEH DET PLAN	
FLASH	
VEH DET DIAG	
DIMMING	

SYS OVRRIDE	
SEQUENCE	9
DET LOG	
RED REST	
PED DET DIAG	

NOTES

NOTE BARRIER BETWEEN PHS 3 & 7. PHS 3 & 7 MUST BE EXCLUSIVE. ALWAYS USE SEQ 3 OR 9. CHANGE ALL SEQS TO MATCH EITHER #3 OR #9

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
LP 1-15															
LP 16-30															
LP 31-45															
LP 46-60															
LP 61-75															
LP 76-90															
LP 91-100															

SCOTTSDALE & HIGHLAND

PHASE IN-USE/SEQ./ACT.

DATE DESIGNED: 11/4/2010

SYSTEM # 64 SECTION # 721

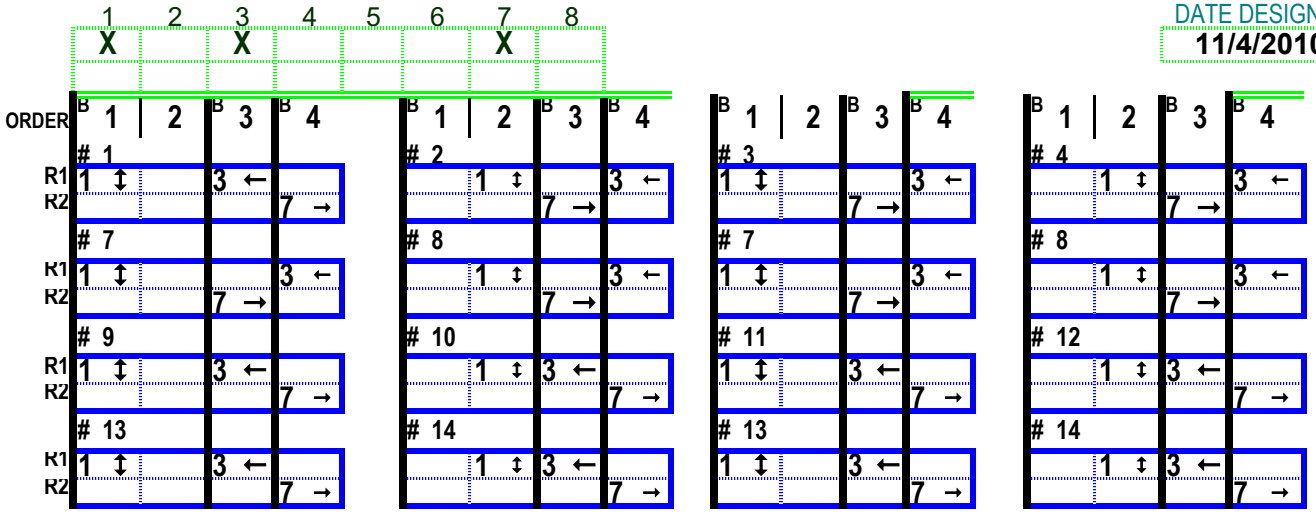
PHASE IN USE
MM-1-2 EXCLSV PED

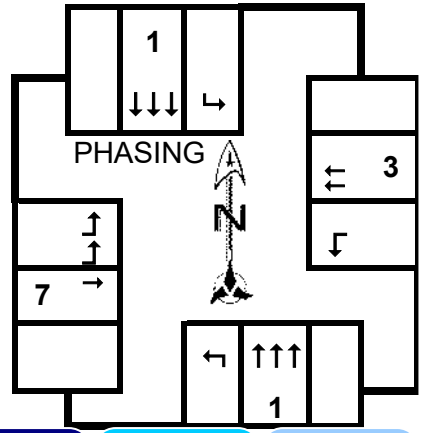
MM-1-1-1
CONTOLLER
SEQUENCES
SEQ. 1 - 4

SEQ. 5 - 8

SEQ. 9 - 12

SEQ. 13 - 16



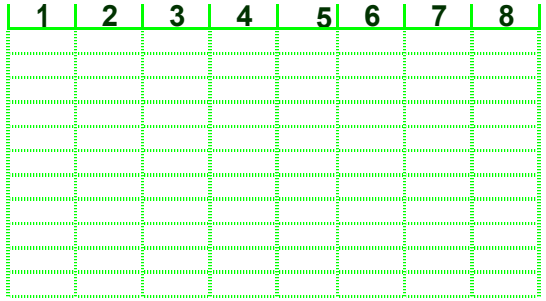


ACT.PLN#1 | ACT.PLN#4 | ACT.PLN#7 | ACT.PLN#10 | ACT.PLN#11 | ACT.PLN#15 | CLEARANCE | BASIC TIME | PATTERNS | HISTORY

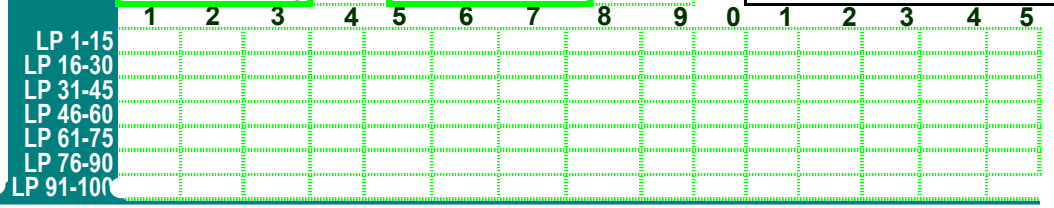
MM-5-2

ACTION PLAN #4

PHASE
PED RCL
WALK 1
VEX 1
VEH RCL
MAX RCL
MAX 2
MAX 3
CS INHBT
OMIT
SPC FCT
AUX FCT



PATTERN	43	SYS OVRRIDE	
TIMING PLAN		SEQUENCE	9
VEH DET PLAN		DET LOG	
FLASH		RED REST	
VEH DET DIAG		PED DET DIAG	
DIMMING			



NOTES

SCOTTSDALE & HIGHLAND

PHASE IN-USE/SEQ./ACT.

DATE DESIGNED: 11/4/2010

SYSTEM # 64 SECTION # 721

PHASE IN USE
MM-1-2 EXCLSV PED

MM-1-1-1
CONTOLLER
SEQUENCES
SEQ. 1 - 4

SEQ. 5 - 8

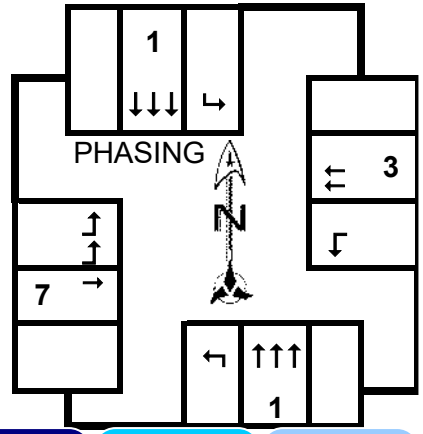
SEQ. 9 - 12

SEQ. 13 - 16

	1	2	3	4	5	6	7	8
	X		X				X	

ORDER

	B 1	2	B 3	B 4
# 1	1		3 ←	7 →
# 2	1		3 ←	7 →
# 3	1		3 ←	7 →
# 4	1		3 ←	7 →
# 7	1		3 ←	7 →
# 8	1		3 ←	7 →
# 9	1		3 ←	7 →
# 10	1		3 ←	7 →
# 11	1		3 ←	7 →
# 12	1		3 ←	7 →
# 13	1		3 ←	7 →
# 14	1		3 ←	7 →



ACT.PLN#1 | ACT.PLN#4 | ACT.PLN#7 | ACT.PLN#10 | ACT.PLN#11 | ACT.PLN#15 | CLEARANCE | BASIC TIME | PATTERNS | HISTORY

MM-5-2

ACTION PLAN #7

	1	2	3	4	5	6	7	8
PHASE								
PED RCL								
WALK 1								
VEX 1								
VEH RCL								
MAX RCL								
MAX 2								
MAX 3								
CS INHBT								
OMIT								
SPC FCT								
AUX FCT								

PATTERN	71	SYS OVRRIDE	
TIMING PLAN		SEQUENCE	9
VEH DET PLAN		DET LOG	
FLASH		RED REST	
VEH DET DIAG		PED DET DIAG	
DIMMING			

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
LP 1-15															
LP 16-30															
LP 31-45															
LP 46-60															
LP 61-75															
LP 76-90															
LP 91-100															

NOTES

SCOTTSDALE & HIGHLAND

PHASE IN-USE/SEQ./ACT.

DATE DESIGNED: 11/4/2010

SYSTEM # 64 SECTION # 721

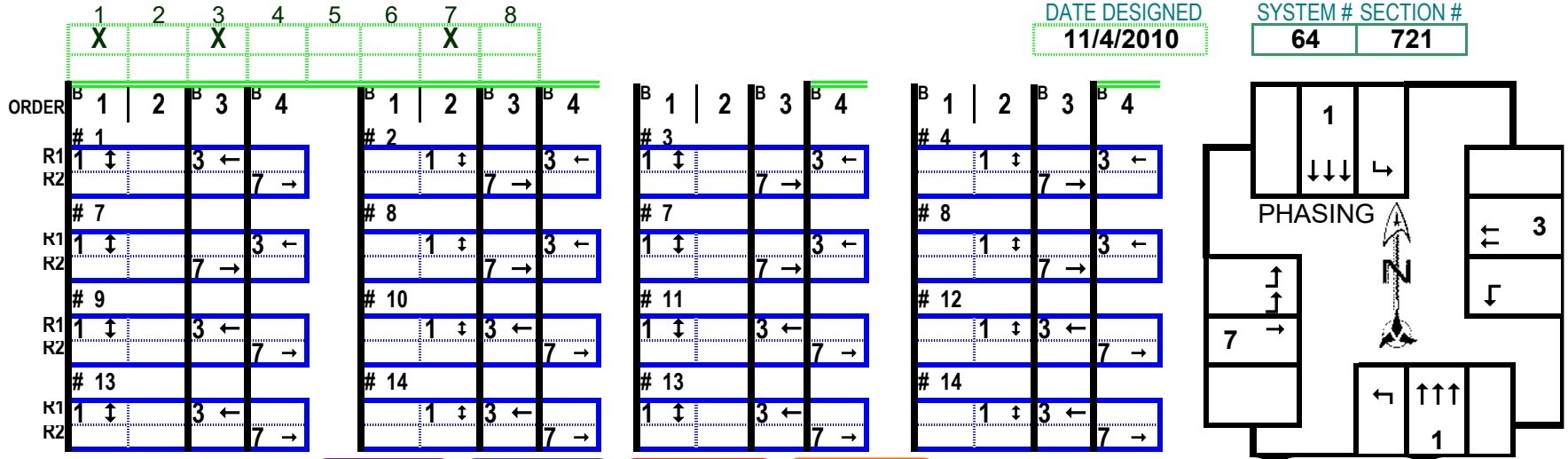
PHASE IN USE
MM-1-2 EXCLSV PED

MM-1-1-1
CONTOLLER
SEQUENCES
SEQ. 1 - 4

SEQ. 5 - 8

SEQ. 9 - 12

SEQ. 13 - 16



ACT.PLN#1 | ACT.PLN#4 | ACT.PLN#7 | ACT.PLN#10 | ACT.PLN#11 | ACT.PLN#15 | CLEARANCE | BASIC TIME | PATTERNS | HISTORY

MM-5-2

ACTION PLAN #10
PHASE
PED RCL
WALK 1
VEX 1
VEH RCL
MAX RCL
MAX 2
MAX 3
CS INHBT
OMIT
SPC FCT
AUX FCT

1 2 3 4 5 6 7 8

PATTERN 103
TIMING PLAN
VEH DET PLAN
FLASH
VEH DET DIAG
DIMMING

SYS OVRRIDE
SEQUENCE 9
DET LOG
RED REST
PED DET DIAG

NOTES

1 2 3 4 5 6 7 8 9 0 1 2 3 4 5

LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

SCOTTSDALE & HIGHLAND

PHASE IN-USE/SEQ./ACT.

DATE DESIGNED: 11/4/2010

SYSTEM # 64 SECTION # 721

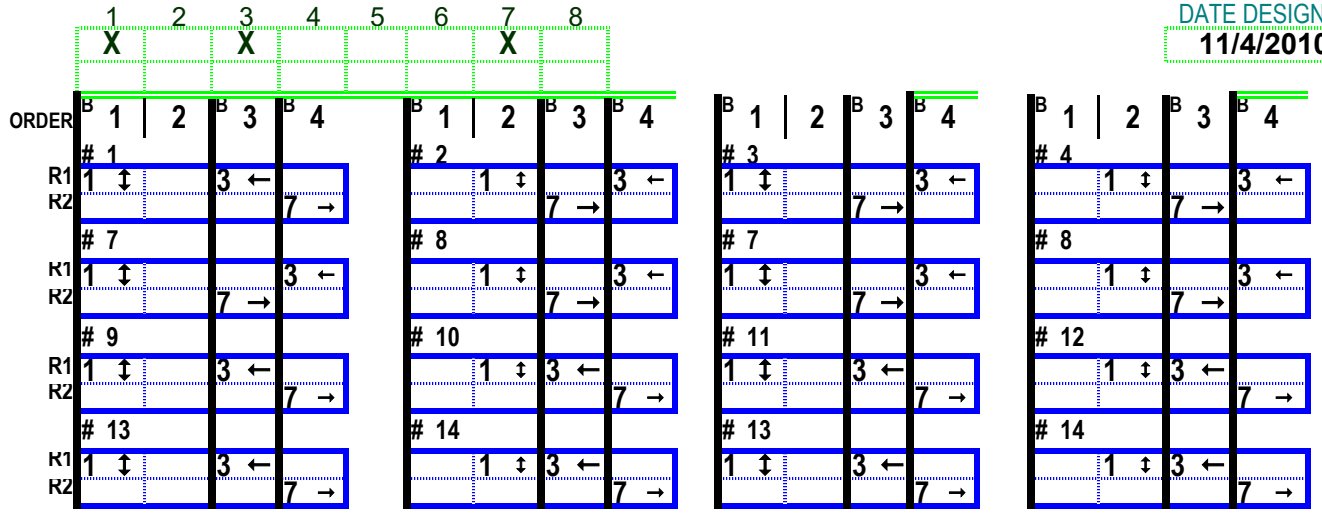
PHASE IN USE
MM-1-2 EXCLSV PED

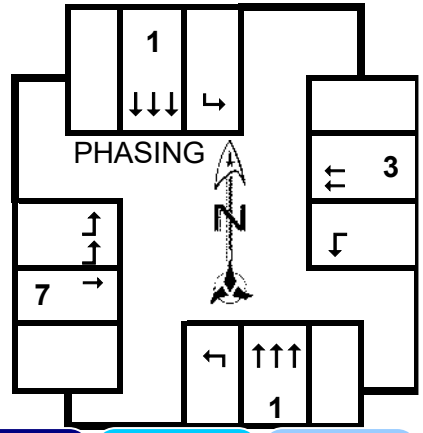
MM-1-1-1
CONTOLLER
SEQUENCES
SEQ. 1 - 4

SEQ. 5 - 8

SEQ. 9 - 12

SEQ. 13 - 16

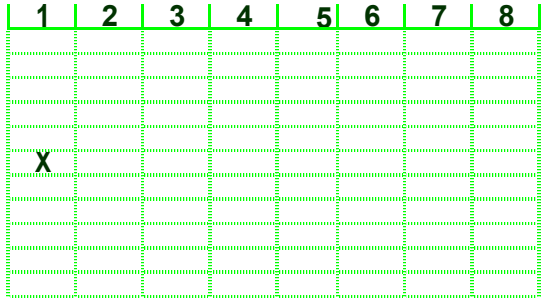




ACT.PLN#1 | ACT.PLN#4 | ACT.PLN#7 | ACT.PLN#10 | ACT.PLN#11 | ACT.PLN#15 | CLEARANCE | BASIC TIME | PATTERNS | HISTORY

MM-5-2

ACTION PLAN #11

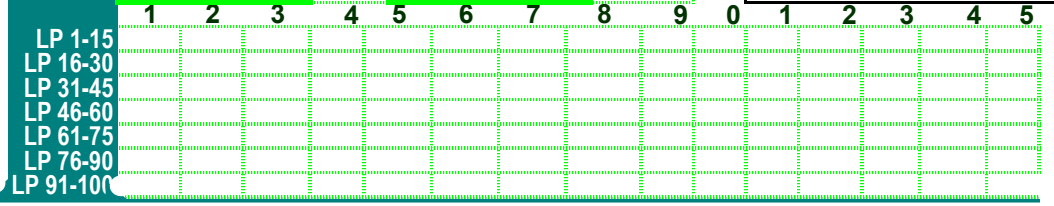


PATTERN
TIMING PLAN
VEH DET PLAN
FLASH
VEH DET DIAG
DIMMING

SYS OVRRIDE
SEQUENCE
DET LOG
RED REST
PED DET DIAG

9

NOTES



SCOTTSDALE & HIGHLAND

PHASE IN-USE/SEQ./ACT.

DATE DESIGNED: 11/4/2010

SYSTEM # 64 SECTION # 721

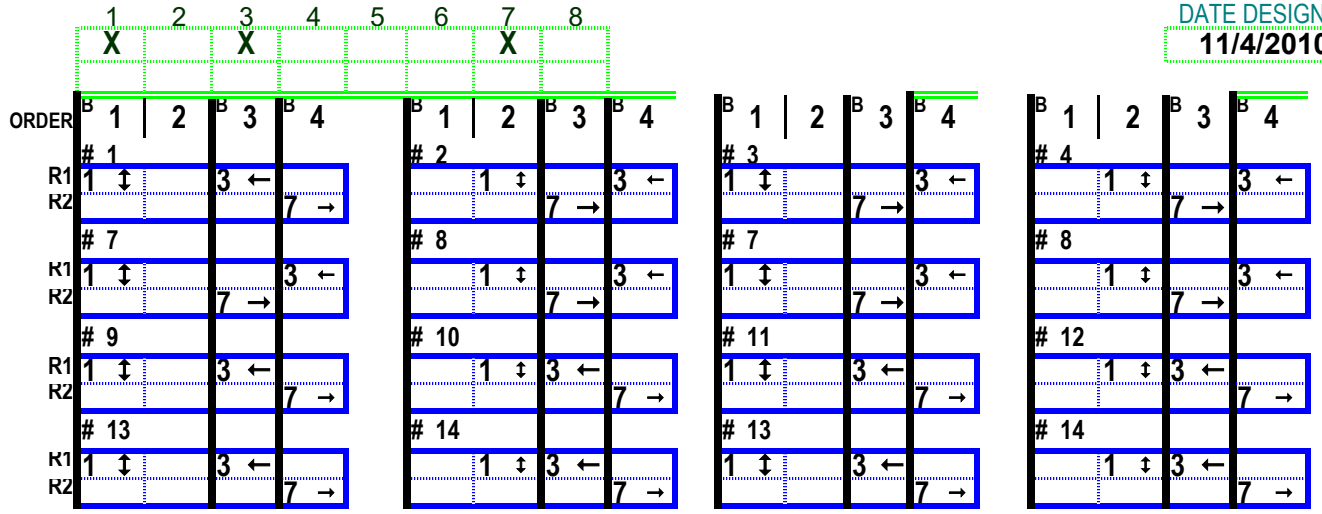
PHASE IN USE
MM-1-2 EXCLSV PED

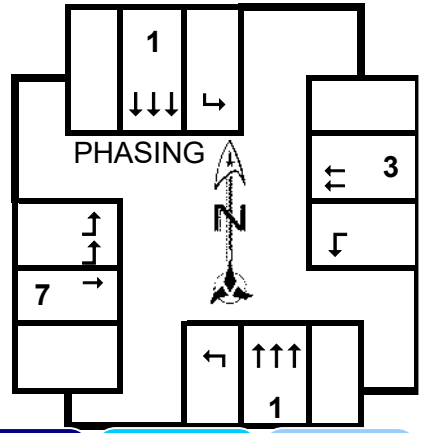
MM-1-1-1
CONTOLLER
SEQUENCES
SEQ. 1 - 4

SEQ. 5 - 8

SEQ. 9 - 12

SEQ. 13 - 16



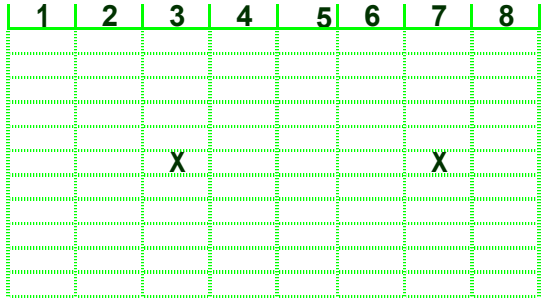


ACT.PLN#1 | ACT.PLN#4 | ACT.PLN#7 | ACT.PLN#10 | ACT.PLN#11 | ACT.PLN#15 | CLEARANCE | BASIC TIME | PATTERNS | HISTORY

MM-5-2

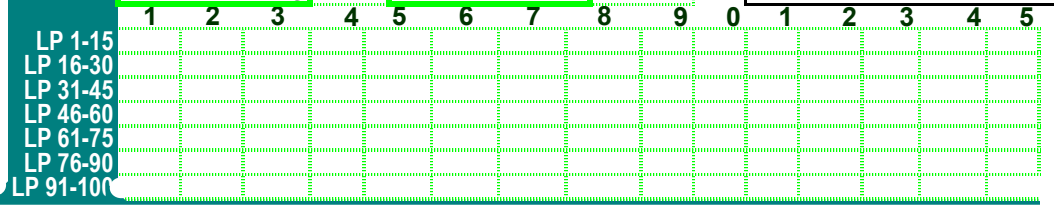
ACTION PLAN #15

PHASE
PED RCL
WALK 1
VEX 1
VEH RCL
MAX RCL
MAX 2
MAX 3
CS INHBT
OMIT
SPC FCT
AUX FCT



PATTERN	SYS OVRRIDE
TIMING PLAN	SEQUENCE 9
VEH DET PLAN	DET LOG
FLASH	RED REST
VEH DET DIAG	PED DET DIAG
DIMMING	

NOTES



SCOTTSDALE & HIGHLAND

COORDINATOR PATTERNS

CLEARANCES

	PH1	2	3	4	5	6	7	8
FDW	16	0	19	0	0	0	19	0
YELLOW	4.2	0.0	2.9	0.0	0.0	0.0	3.4	0.0
ALL RED	1.8	0.0	3.1	0.0	0.0	0.0	2.6	0.0

SYSTEM # 64

SECTION # 721

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 # 9
ACTION PLAN #

SEQUENCE

R1: 1 ↕ | | 3 ← | |
R2: | | | 7 →

MOVEMENTS NST WBT EBT

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

N/S

MM-3-2 AVAILABLE COORDINATOR PATTERN #s

1 1 | 1 2 | 1 3 | 1 4 | 1 5 | 1 6

2 1 | 2 2 | 2 3 | 2 4 | 2 5 | 2 6

3 1 | 3 2 | 3 3 | 3 4 | 3 5 | 3 6

PROGRESSION VALUES

DIR CODE	COORD DIR	B.O.G. OFFSET
1	NB	39
2	SB	39
3	NS	39
4	EB	15
5	WB	15
6	EW	15

HYPERLINKS TO MORNING TIME-SPACE DIAGRAMS

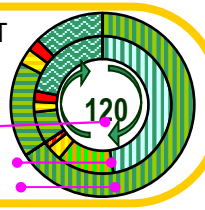
1 2 3 4 5 6

PLAN # 1

DATE EFFECTIVE

OPERATIVE TIMES 0630-0900

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET
SPLIT	79		15	26	79		26	15	120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	73	0	9	26	79	0	20	15	RING 1

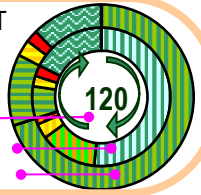


PLAN # 2

DATE EFFECTIVE 3/30/2009

OPERATIVE TIMES

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET
SPLIT	84		15	21	84		21	15	120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	78	0	9	21	84	0	15	15	RING 1
									RING 2

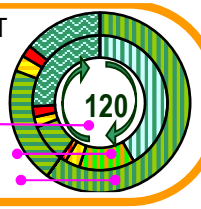


PLAN # 3

DATE EFFECTIVE 3/30/2009

OPERATIVE TIMES

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET
SPLIT	72		17	31	72		31	17	120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	66	0	11	31	72	0	25	17	RING 1
									RING 2



SCOTTSDALE & HIGHLAND

COORDINATOR PATTERNS

CLEARANCES

	PH1	2	3	4	5	6	7	8
FDW	16	0	19	0	0	0	19	0
YELLOW	4.2	0.0	2.9	0.0	0.0	0.0	3.4	0.0
ALL RED	1.8	0.0	3.1	0.0	0.0	0.0	2.6	0.0

SYSTEM # 64

SECTION # 721

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

CLEARANCE | BASIC TIME | SEQUENCE | HISTORY

MM-3-3 MID-DAY SPLIT PATTERNS

TIMING PLAN 1
SEQUENCE 9
ACTION PLAN

SEQUENCE

R1: 1 ↕ | | 3 ← | |
R2: | | | 7 →

MOVEMENTS NST WBT EBT

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

MM-3-2 AVAILABLE COORDINATOR PATTERN #s

PROGRESSION VALUES

DIR CODE	COORD DIR	B.O.G. OFFSET
1	NB	60
2	SB	60
3	NS	60
4	EB	60
5	WB	60
6	EW	60

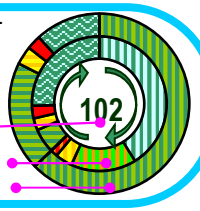
HYPERLINKS TO MID-DAY TIME-SPACE DIAGRAMS

PLAN # 4

DATE EFFECTIVE 1/0/1900
OPERATIVE TIMES 0900-1530 1830-2100

RING 1 / RING 2

PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	64		12	26	64		26	12	102
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	58	0	6	26	64	0	20	12	RING 1



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

PLAN # 5

DATE EFFECTIVE 3/30/2009
OPERATIVE TIMES as needed

RING 1 / RING 2

PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	68		12	22	68		22	12	102
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	62	0	6	22	68	0	16	12	RING 1
									RING 2

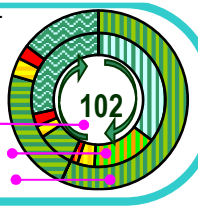
AVAILABLE COORDINATOR PATTERN #s: 5 1 | 5 2 | 5 3 | 5 4 | 5 5 | 5 6

PLAN # 6

DATE EFFECTIVE 3/30/2009
OPERATIVE TIMES as needed

RING 1 / RING 2

PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	58		15	29	58		29	15	102
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	52	0	9	29	58	0	23	15	RING 1
									RING 2



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

SCOTTSDALE & HIGHLAND

COORDINATOR PATTERNS

CLEARANCES

	PH1	2	3	4	5	6	7	8
FDW	16	0	19	0	0	0	19	0
YELLOW	4.2	0.0	2.9	0.0	0.0	0.0	3.4	0.0
ALL RED	1.8	0.0	3.1	0.0	0.0	0.0	2.6	0.0

SYSTEM # 64

SECTION # 721

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

CLEARANCE | BASIC TIME | SEQUENCE | HISTORY

MM-3-3 EVENING SPLIT PATTERNS

TIMING PLAN 1
SEQUENCE 9
ACTION PLAN

SEQUENCE

R1	1 ↕		3 ←	
R2				7 →

MOVEMENTS NST WBT EBT

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

N/S

MM-3-2 AVAILABLE COORDINATOR PATTERN #s

PROGRESSION VALUES

DIR CODE	COORD DIR	B.O.G. OFFSET
1	NB	30
2	SB	30
3	NS	30
4	EB	30
5	WB	30
6	EW	30

HYPERLINKS TO EVENING TIME-SPACE DIAGRAMS

PLAN # 7

DATE EFFECTIVE 1/0/1900

OPERATIVE TIMES 1530-1830

	RING 1				RING 2				TARGET
PHASE	1	2	3	4	5	6	7	8	
SPLIT	79		15	26	79		26	15	120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	73	0	9	26	79	0	20	15	RING 1

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	84		14	22	84		22	14	120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	78	0	8	22	84	0	16	14	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	71		14	35	71		35	14	120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	65	0	8	35	71	0	29	14	RING 1
									RING 2

120

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

SCOTTSDALE & HIGHLAND

COORDINATOR PATTERNS

CLEARANCES

	PH1	2	3	4	5	6	7	8
FDW	16	0	19	0	0	0	19	0
YELLOW	4.2	0.0	2.9	0.0	0.0	0.0	3.4	0.0
ALL RED	1.8	0.0	3.1	0.0	0.0	0.0	2.6	0.0

SYSTEM # 64

SECTION # 721

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

CLEARANCE | BASIC TIME | SEQUENCE | HISTORY

MM-3-3 MID-NIGHT SPLIT PATTERNS

TIMING PLAN 1
SEQUENCE 9
ACTION PLAN

SEQUENCE

R1	1 ↕		3 ←	
R2				7 →

MOVEMENTS NST WBT EBT

E/W N/S

WALK & GREEN
FDW & GREEN
GREEN w/o WALK
LEFT

MM-3-2

AVAILABLE COORDINATOR PATTERN #s

PROGRESSION VALUES

HYPERLINKS TO MID-NITE TIME-SPACE DIAGRAMS

PLAN # 10

DATE EFFECTIVE 1/0/1900

OPERATIVE TIMES 2000-0630

	RING 1				RING 2				TARGET CYCLE
PHASE	1	2	3	4	5	6	7	8	
SPLIT	62		12	16	62		16	12	90
COORD	x								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	56	0	6	16	62	0	10	12	RING

90

10 1
10 2
10 3
10 4
10 5
10 6

PLAN # 110

DATE EFFECTIVE 11/4/2010

OPERATIVE TIMES

	RING 1				RING 2				TARGET CYCLE
PHASE	1	2	3	4	5	6	7	8	
SPLIT				0	0			0	
COORD									ACTUAL CYCLE
RECALLS (V, P, Mx)									
GREEN	-6	0	-6	0	0	0	-6	0	RING 1
									RING 2

0

11 1
11 2
11 3

PLAN # 111

DATE EFFECTIVE 11/4/2010

OPERATIVE TIMES

	RING 1				RING 2				TARGET CYCLE
PHASE	1	2	3	4	5	6	7	8	
SPLIT				0	0			0	
COORD									ACTUAL CYCLE
RECALLS (V, P, Mx)									
GREEN	-6	0	-6	0	0	0	-6	0	RING 1
									RING 2

0

11 4
11 5
11 6

DIR CODE	COORD DIR	B.O.G. OFFSET
1	NB	30
2	SB	30
3	NS	30
4	EB	30
5	WB	30
6	EW	30

SCOTTSDALE & HIGHLAND

COORDINATOR PATTERNS

CLEARANCES

	PH1	2	3	4	5	6	7	8
FDW	16	0	19	0	0	0	19	0
YELLOW	4.2	0.0	2.9	0.0	0.0	0.0	3.4	0.0
ALL RED	1.8	0.0	3.1	0.0	0.0	0.0	2.6	0.0

SYSTEM # 64

SECTION # 721

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

CLEARANCE | BASIC TIME | SEQUENCE | HISTORY

EXTREME

TIMING PLAN 1
SEQUENCE 9
ACTION PLAN 11

SEQUENCE

R1: 1 ↕ | | 3 ← | |
R2: | | | 7 →

MOVEMENTS NST WBT EBT

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

N/S

AVAILABLE COORDINATOR PATTERN #s

PROGRESSION VALUES

DIR CODE	COORD DIR	B.O.G. OFFSET	
7	NB	30	7
8	SB	30	8
9	NS	30	9

HYPERLINKS TO N/S EX TIME-SPACE DIAGRAMS

PLAN # 11
DATE EFFECTIVE

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	71		14	35	71		35	14	120
COORD	X		P						ACTUAL CYCLE
RECALLS (V. P. Mx)									
GREEN	65	0	8	35	71	0	29	14	RING 1 / RING 2

AVAILABLE COORDINATOR PATTERN #s: 17, 18, 19

PLAN # 12
DATE EFFECTIVE

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

AVAILABLE COORDINATOR PATTERN #s: 27, 28, 29

PLAN # 13
DATE EFFECTIVE

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	76		14	30	76		30	14	120
COORD	X		P						ACTUAL CYCLE
RECALLS (V. P. Mx)									
GREEN	70	0	8	30	76	0	24	14	RING 1 / RING 2

AVAILABLE COORDINATOR PATTERN #s: 37, 38, 39

PLAN # 14
DATE EFFECTIVE

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	78		14	28	78		28	14	120
COORD	X		P						ACTUAL CYCLE
RECALLS (V. P. Mx)									
GREEN	72	0	8	28	78	0	22	14	RING 1 / RING 2

AVAILABLE COORDINATOR PATTERN #s: 47, 48, 49

SCOTTSDALE & HIGHLAND

COORDINATOR PATTERNS

CLEARANCES

	PH1	2	3	4	5	6	7	8
FDW	16	0	19	0	0	0	19	0
YELLOW	4.2	0.0	2.9	0.0	0.0	0.0	3.4	0.0
ALL RED	1.8	0.0	3.1	0.0	0.0	0.0	2.6	0.0

SYSTEM # 64

SECTION # 721

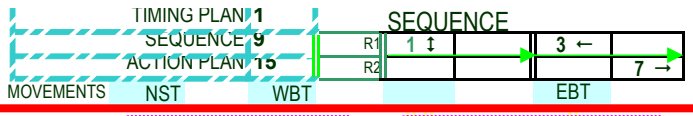
MORNING | EVENING | N/S EX | MID-DAY | MIDNIGHT | E/W EX

CLEARANCE | BASIC TIME | SEQUENCE | HISTORY

EXTREME

TIMING PLAN 1
SEQUENCE 9
ACTION PLAN 15

SEQUENCE



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

N/S

AVAILABLE COORDINATOR PATTERN #s

PROGRESSION VALUES

DIR CODE	COORD DIR	B.O.G. OFFSET	
7	EB	30	7
8	WB	30	8
9	EW	30	9

HYPERLINKS TO E/W EX TIME-SPACE DIAGRAMS

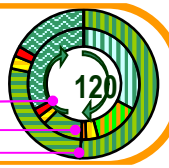
PLAN # 15 DATE EFFECTIVE

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	66		17	37	66		37	17	120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	60	0	11	37	66	0	31	17	RING 1 / RING 2

AVAILABLE COORDINATOR PATTERN #s: 5 7 / 5 8 / 5 9

PLAN # 16 DATE EFFECTIVE

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	61		20	39	61		39	20	120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	55	0	14	39	61	0	33	20	RING 1 / RING 2



AVAILABLE COORDINATOR PATTERN #s: 6 7 / 6 8 / 6 9

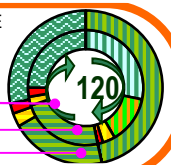
PLAN # 17 DATE EFFECTIVE

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	56		18	46	56		46	18	120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	50	0	12	46	56	0	40	18	RING 1 / RING 2

AVAILABLE COORDINATOR PATTERN #s: 7 7 / 7 8 / 7 9

PLAN # 18 DATE EFFECTIVE

	RING 1				RING 2				
PHASE	1	2	3	4	5	6	7	8	TARGET CYCLE
SPLIT	56		34	30	56		30	34	120
COORD	X								ACTUAL CYCLE
RECALLS (V, P, Mx)	P								
GREEN	50	0	28	30	56	0	24	34	RING 1 / RING 2



AVAILABLE COORDINATOR PATTERN #s: 8 7 / 8 8 / 8 9

SCOTTSDALE & HIGHLAND

TIMING HISTORY

CLEARANC | BASIC TIME | SEQUENCE | PATTERNS

PREVIOUS SPLIT PLANS

PREVIOUS PHASING

DATE OF CHANGE	BRIEF DESCRIPTION OF CHANGE	OTHER NOTES	REQUESTED BY:

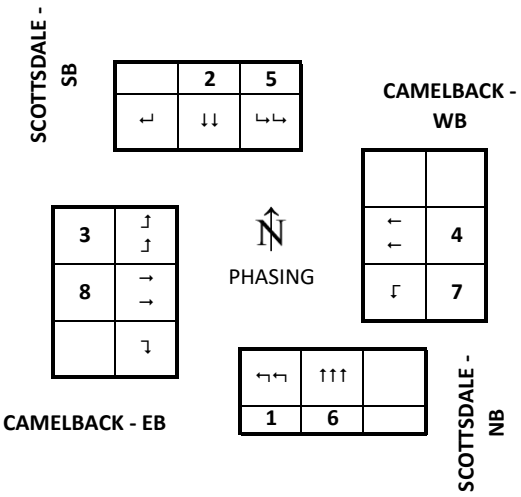
SCOTTSDALE & CAMELBACK

System # 59

BASIC TIMING PLAN

Section #	I.P. Address	Date Designed
	MM1-5-1	
	172.17.10.59	12/20/2016

	Phase	1	2	3	4	5	6	7	8
TIMING PLAN - MM-2-1	Movement	NBL	SBT	EBL	WBT	SBL	NBT	WBL	EBT
	NOTES	PROT		PROT		PROT		PROT	
	MIN GRN	5	10	5	7	5	10	5	7
	BK MGRN								
	CS MGRN								
	DLY GRN								
	WALK		7		7		7		7
	WALK2								
	WLK MAX								
	PED CLR/FDW		23		31		24		25
	PD CLR2								
	PC MAX								
	PED CO								
	VEH EXT	2	2	2	2	2	2	2	2
	VH EXT2								
	MAX 1	20	50	20	50	20	50	20	50
	MAX 2	35	65	40	65	35	65	40	65
	MAX 3								
	DYM MAX								
	DYM STP								
	YELLOW	3	4.4	3.3	4	3.6	3.6	3.3	4
	RED CLR	2	1.0	2	1.5	2	1.4	2	1.5
	RED MAX								
	RED RVT	2	2	2	2	2	2	2	2
	ACT B4								
	SEC/ACT								
	MAX INT								
	TIME B4								
	CARS WT								
	STPTDUC								
	TTREDUC								
	MIN GAP								
RECALLS - MM-2-8	LOCK DET								
	VEH RECALL		X				X		
	PED RECALL								
	MAX RECALL								
	SOFT RECALL								
	NO REST								
	ADD INIT CAL								



PHASING SEQUENCES				
TOD: MORNING				
R1	2	1	3	4
R2	5	6	8	7
		B		B
Use Timing plan:				
TOD: MIDDAY				
R1	2	1	3	4
R2	5	6	8	7
		B		B
Use Timing plan:				
TOD: EVENING				
R1	2	1	3	4
R2	5	6	8	7
		B		B
Use Timing plan:				
TOD: WEEKEND				
R1	2	1	3	4
R2	5	6	8	7
		B		B
Use Timing plan:				
FREE				
R1	2	1	3	4
R2	5	6	8	7
		B		B
Use Timing plan: 254				

NOTES
4" Delayed Green for NB/SB walk.

EXPIRES XX/XX/XXXX

SCOTTSDALE & CAMELBACK

System #	59

COORDINATOR	Section #	Date Updated
	0	12/20/2016

	PHASE	1	2	3	4	5	6	7	8	
	FDW		23		31		24		25	
	YELLOW	3	4.4	3.3	4	3.6	3.6	3.3	4	
	ALL RED	2	1	2	1.5	2	1.4	2	1.5	
	WALK		23		31		24		25	

										COORD PATTERN	OFFSET
PLAN 1 AM PLAN OPERATIVE TIMES	R1	2	↓	1	↰	3	↱	4	←		
	R2	5	↳	6	↑	8	→	7	↲	Balanced	99
		RING 1				RING 2					
	PHASE	1	2	3	4	5	6	7	8		
	SPLIT	18	42	16	44	20	40	14	46	Target Cycle Length	
	COORD		X				X			120	
	RECALLS		V				V			Actual Cycle Length	
	GREEN	13.0	36.6	10.7	38.5	14.4	35.0	8.7	40.5	120	

										COORD PATTERN	OFFSET
PLAN 4 MIDDAY PLAN OPERATIVE TIMES	R1	2	↓	1	↰	3	↱	4	←		
	R2	5	↳	6	↑	8	→	7	↲	Balanced	86
		RING 1				RING 2					
	PHASE	1	2	3	4	5	6	7	8		
	SPLIT	22	37	17	44	20	39	14	47	Target Cycle Length	
	COORD		X				X			120	
	RECALLS		V				V			Actual Cycle Length	
	GREEN	###	###	###	###	###	###	8.7	###	120	

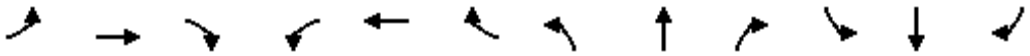
										COORD PATTERN	OFFSET
PLAN 7 PM PLAN OPERATIVE TIMES	R1	2	↓	1	↰	3	↱	4	←		
	R2	5	↳	6	↑	8	→	7	↲	Balanced	40
		RING 1				RING 2					
	PHASE	1	2	3	4	5	6	7	8		
	SPLIT	23	38	19	40	25	36	16	43	Target Cycle Length	
	COORD		X				X			120	
	RECALLS		V				V			Actual Cycle Length	
	GREEN	###	###	###	###	###	###	###	###	120	

										COORD PATTERN	OFFSET
PLAN 10 MIDNIGHT PLAN OPERATIVE TIMES	R1	2	↓	1	↰	3	↱	4	←		
	R2	5	↳	6	↑	8	→	7	↲	Balanced	5
		RING 1				RING 2					
	PHASE	1	2	3	4	5	6	7	8		
	SPLIT	17	33	15	25	15	35	14	26	Target Cycle Length	
	COORD		X				X			90	
	RECALLS		V				V			Actual Cycle Length	
	GREEN	###	###	9.7	###	9.4	###	8.7	###	90	

Appendix E – Existing Capacity Analysis

Lokahi

E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	315	18	14	8	2	22	19	632	39	47	561	39
Future Volume (vph)	315	18	14	8	2	22	19	632	39	47	561	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frt	1.00	0.93		1.00	0.86		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1741		1770	1607		1770	5041		1770	5035	
Flt Permitted	0.74	1.00		0.74	1.00		0.41	1.00		0.37	1.00	
Satd. Flow (perm)	2680	1741		1380	1607		761	5041		698	5035	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	321	18	14	8	2	22	19	645	40	48	572	40
RTOR Reduction (vph)	0	12	0	0	21	0	0	5	0	0	6	0
Lane Group Flow (vph)	321	20	0	8	3	0	19	680	0	48	606	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		7			3			1			1	
Permitted Phases	7			3			1			1		
Actuated Green, G (s)	20.0	20.0		5.4	5.4		76.6	76.6		76.6	76.6	
Effective Green, g (s)	20.0	20.0		5.4	5.4		76.6	76.6		76.6	76.6	
Actuated g/C Ratio	0.17	0.17		0.05	0.05		0.64	0.64		0.64	0.64	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	446	290		62	72		485	3217		445	3214	
v/s Ratio Prot		0.01			0.00			c0.13			0.12	
v/s Ratio Perm	c0.12			c0.01			0.02			0.07		
v/c Ratio	0.72	0.07		0.13	0.04		0.04	0.21		0.11	0.19	
Uniform Delay, d1	47.3	42.2		55.0	54.8		8.0	9.1		8.4	8.9	
Progression Factor	1.00	1.00		1.00	1.00		0.65	0.64		1.00	1.00	
Incremental Delay, d2	5.5	0.1		0.3	0.1		0.1	0.1		0.5	0.1	
Delay (s)	52.8	42.3		55.4	54.9		5.4	6.0		8.9	9.1	
Level of Service	D	D		E	D		A	A		A	A	
Approach Delay (s)		51.9			55.0			6.0			9.0	
Approach LOS		D			E			A			A	

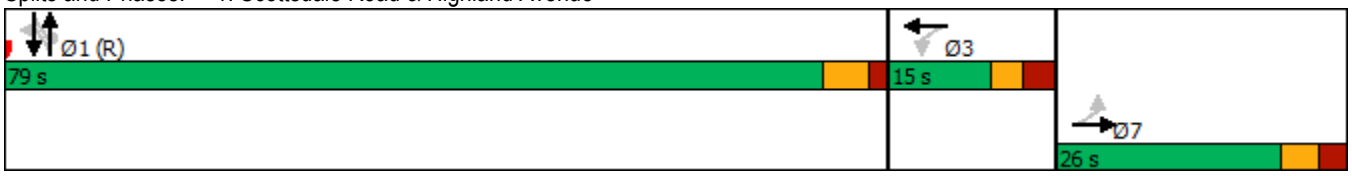
Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Phase Number	1	3	7
Movement	NBSB	WBTL	EBTL
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	None	None
Maximum Split (s)	79	15	26
Maximum Split (%)	65.8%	12.5%	21.7%
Minimum Split (s)	79	31	31
Yellow Time (s)	4.2	2.9	3.4
All-Red Time (s)	1.8	3.1	2.6
Minimum Initial (s)	73	9	20
Vehicle Extension (s)	3	2	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	14	6	6
Flash Dont Walk (s)	16	19	19
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	39	118	13
End Time (s)	118	13	39
Yield/Force Off (s)	112	7	33
Yield/Force Off 170(s)	96	108	14
Local Start Time (s)	0	79	94
Local Yield (s)	73	88	114
Local Yield 170(s)	57	69	95

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	145
Offset: 39 (33%), Referenced to phase 1:NBSB, Start of Green	

Splits and Phases: 1: Scottsdale Road & Highland Avenue



HCM 6th Edition methodology expects standard NEMA quad ring-barrier structure. Does not support multiple barriers.

Intersection	
Int Delay, s/veh	0.1

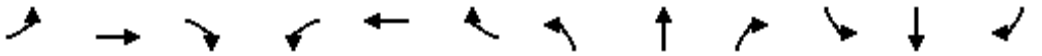
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	14	668	12	0	610
Future Vol, veh/h	0	14	668	12	0	610
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	200	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	14	682	12	0	622

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	341	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*783	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		1	-	-		-
Mov Cap-1 Maneuver	-	*783	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	783	-
HCM Lane V/C Ratio	-	-	0.018	-
HCM Control Delay (s)	-	-	9.7	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	7	10	0	17	39	649	20	13	568	16
Future Volume (vph)	2	0	7	10	0	17	39	649	20	13	568	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0			7.0		4.0	6.0		4.0	6.0	6.0
Lane Util. Factor	1.00	1.00			1.00		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.85			0.91		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1583			1673		1770	5062		1770	5085	1583
Flt Permitted	0.74	1.00			0.90		0.38	1.00		0.36	1.00	1.00
Satd. Flow (perm)	1374	1583			1531		709	5062		672	5085	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	2	0	8	11	0	19	43	713	22	14	624	18
RTOR Reduction (vph)	0	7	0	0	26	0	0	2	0	0	0	7
Lane Group Flow (vph)	2	1	0	0	4	0	43	733	0	14	624	11
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		3			3		6	1		2	5	
Permitted Phases	3			3			1			5		5
Actuated Green, G (s)	15.6	15.6			15.6		91.4	81.0		81.0	74.6	74.6
Effective Green, g (s)	15.6	15.6			15.6		91.4	81.0		81.0	74.6	74.6
Actuated g/C Ratio	0.13	0.13			0.13		0.76	0.68		0.68	0.62	0.62
Clearance Time (s)	7.0	7.0			7.0		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	178	205			199		653	3416		512	3161	984
v/s Ratio Prot		0.00					c0.01	c0.14		0.00	0.12	
v/s Ratio Perm	0.00				c0.00		0.04			0.02		0.01
v/c Ratio	0.01	0.01			0.02		0.07	0.21		0.03	0.20	0.01
Uniform Delay, d1	45.5	45.4			45.5		3.6	7.4		6.4	9.8	8.6
Progression Factor	1.00	1.00			1.00		1.00	1.00		0.40	0.51	1.00
Incremental Delay, d2	0.0	0.0			0.0		0.0	0.1		0.0	0.1	0.0
Delay (s)	45.5	45.5			45.6		3.6	7.6		2.6	5.1	8.7
Level of Service	D	D			D		A	A		A	A	A
Approach Delay (s)		45.5			45.6			7.3			5.1	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	100.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Phase Number	1	2	3	5	6
Movement	NBTL	SBL	EBWB	SBTL	NBL
Lead/Lag	Lag	Lead		Lag	Lead
Lead-Lag Optimize	Yes	Yes		Yes	Yes
Recall Mode	C-Max	None	None	C-Max	None
Maximum Split (s)	67	20	33	67	20
Maximum Split (%)	55.8%	16.7%	27.5%	55.8%	16.7%
Minimum Split (s)	67	22.5	34	67	22.5
Yellow Time (s)	4.5	3	3.1	4.5	3
All-Red Time (s)	1.5	1	3.9	1.5	1
Minimum Initial (s)	61	16	26	61	16
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	20	6	7	7	7
Flash Dont Walk (s)	10	0	20	10	0
Dual Entry	Yes	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes
Start Time (s)	58	38	5	58	38
End Time (s)	5	58	38	5	58
Yield/Force Off (s)	119	54	31	119	54
Yield/Force Off 170(s)	109	54	11	109	54
Local Start Time (s)	0	100	67	0	100
Local Yield (s)	61	116	93	61	116
Local Yield 170(s)	51	116	73	51	116

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	125
Offset: 58 (48%), Referenced to phase 1:NBTL and 5:SBTL, Start of Green	

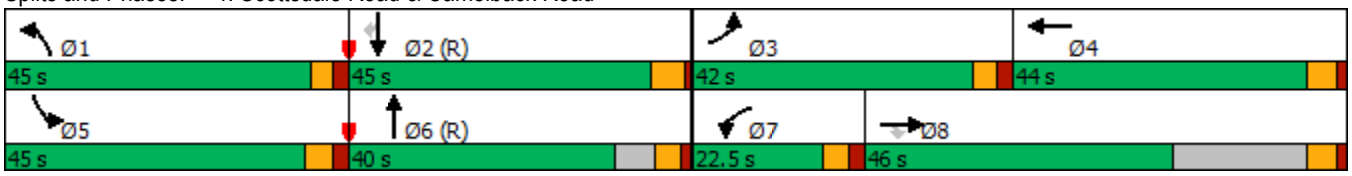
Splits and Phases: 3: Scottsdale Road & Fashion Square

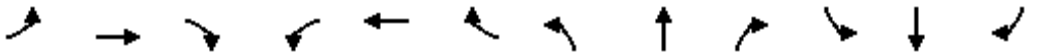
HCM 6th Edition methodology does not support Non-NEMA phasing.

Phase Number	1	2	3	4	5	6	7	8
Movement	NBL	SBT	EBL	WBT	SBL	NBT	WBL	EBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	45	45	42	44	45	40	22.5	46
Maximum Split (%)	25.6%	25.6%	23.9%	25.0%	25.6%	22.7%	12.8%	26.1%
Minimum Split (s)	45	45	42	43.5	45	36	22.5	37.5
Yellow Time (s)	3	4.4	3.3	4	3.6	3.6	3.3	4
All-Red Time (s)	2	1	2	1.5	2	1.4	2	1.5
Minimum Initial (s)	5	10	5	7	5	10	5	7
Vehicle Extension (s)	2	2	2	2	2	2	2	2
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		23		31		24		25
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	54	99	144	10	54	99	144	166.5
End Time (s)	99	144	10	54	99	144	166.5	54
Yield/Force Off (s)	94	138.6	4.7	48.5	93.4	139	161.2	48.5
Yield/Force Off 170(s)	94	115.6	4.7	17.5	93.4	115	161.2	23.5
Local Start Time (s)	131	0	45	87	131	0	45	67.5
Local Yield (s)	171	39.6	81.7	125.5	170.4	40	62.2	125.5
Local Yield 170(s)	171	16.6	81.7	94.5	170.4	16	62.2	100.5

Intersection Summary	
Cycle Length	176
Control Type	Actuated-Coordinated
Natural Cycle	180
Offset: 99 (56%), Referenced to phase 2:SBT and 6:NBT, Start of Green	

Splits and Phases: 4: Scottsdale Road & Camelback Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	281	88	76	350	127	84	443	49	104	392	75
Future Volume (veh/h)	136	281	88	76	350	127	84	443	49	104	392	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	142	293	92	79	365	132	88	461	51	108	408	78
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	569	254	97	414	148	127	2891	315	149	2232	996
Arrive On Green	0.05	0.16	0.16	0.05	0.16	0.16	0.04	0.62	0.62	0.04	0.63	0.63
Sat Flow, veh/h	3456	3554	1585	1781	2568	915	3456	4674	509	3456	3554	1585
Grp Volume(v), veh/h	142	293	92	79	251	246	88	334	178	108	408	78
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1706	1728	1702	1779	1728	1777	1585
Q Serve(g_s), s	7.1	13.3	9.1	7.7	24.3	24.9	4.4	7.3	7.5	5.4	8.5	3.4
Cycle Q Clear(g_c), s	7.1	13.3	9.1	7.7	24.3	24.9	4.4	7.3	7.5	5.4	8.5	3.4
Prop In Lane	1.00		1.00	1.00		0.54	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	184	569	254	97	287	275	127	2106	1100	149	2232	996
V/C Ratio(X)	0.77	0.51	0.36	0.82	0.88	0.89	0.69	0.16	0.16	0.73	0.18	0.08
Avail Cap(c_a), veh/h	721	818	365	174	389	373	785	2106	1100	774	2232	996
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	82.3	67.6	65.9	82.4	72.1	72.3	83.8	14.2	14.2	83.2	13.7	12.8
Incr Delay (d2), s/veh	2.6	0.3	0.3	6.2	12.5	15.6	2.5	0.2	0.3	2.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	6.1	3.7	3.7	12.1	12.1	2.0	2.9	3.1	2.5	3.5	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.9	67.9	66.2	88.5	84.6	87.9	86.3	14.4	14.5	85.7	13.9	12.9
LnGrp LOS	F	E	E	F	F	F	F	B	B	F	B	B
Approach Vol, veh/h		527			576			600			594	
Approach Delay, s/veh		72.2			86.6			25.0			26.8	
Approach LOS		E			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	116.0	14.7	33.9	13.2	114.3	14.9	33.7
Change Period (Y+Rc), s	5.0	5.4	* 5.3	5.5	5.6	* 5.4	* 5.3	5.5
Max Green Setting (Gmax), s	40.0	39.6	* 37	38.5	39.4	* 35	* 17	40.5
Max Q Clear Time (g_c+I1), s	6.4	10.5	9.1	26.9	7.4	9.5	9.7	15.3
Green Ext Time (p_c), s	0.1	1.8	0.2	1.5	0.2	2.0	0.0	1.3

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

Notes

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

Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	19	14	2	14	14	3
Future Vol, veh/h	19	14	2	14	14	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	15	2	15	15	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	35	0	47	28
Stage 1	-	-	-	-	28	-
Stage 2	-	-	-	-	19	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1579	-	969	1054
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	1004	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1579	-	968	1054
Mov Cap-2 Maneuver	-	-	-	-	968	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	1003	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0.9	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	982	-	-	1579	-
HCM Lane V/C Ratio	0.019	-	-	0.001	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	2	0	14	0	2
Future Vol, veh/h	10	2	0	14	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	2	0	17	0	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	14	0	30	13
Stage 1	-	-	-	-	13	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1604	-	984	1067
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1604	-	984	1067
Mov Cap-2 Maneuver	-	-	-	-	984	-
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	1006	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1067	-	-	1604	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	8.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

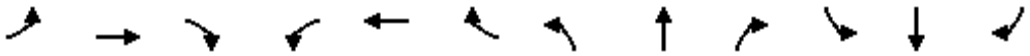
Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	0	5	17	0	0
Future Vol, veh/h	15	0	5	17	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	0	7	23	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	20	19	0	0	30	0
Stage 1	19	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	997	1059	-	-	1583	-
Stage 1	1004	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	997	1059	-	-	1583	-
Mov Cap-2 Maneuver	997	-	-	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	997	1583	-
HCM Lane V/C Ratio	-	-	0.021	-	-
HCM Control Delay (s)	-	-	8.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	549	8	48	28	23	48	45	904	25	27	829	65
Future Volume (vph)	549	8	48	28	23	48	45	904	25	27	829	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frt	1.00	0.87		1.00	0.90		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1625		1770	1674		1770	5065		1770	5030	
Flt Permitted	0.71	1.00		0.56	1.00		0.26	1.00		0.25	1.00	
Satd. Flow (perm)	2555	1625		1035	1674		483	5065		460	5030	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	597	9	52	30	25	52	49	983	27	29	901	71
RTOR Reduction (vph)	0	42	0	0	49	0	0	2	0	0	8	0
Lane Group Flow (vph)	597	19	0	30	28	0	49	1008	0	29	964	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		7			3			1			1	
Permitted Phases	7			3			1			1		
Actuated Green, G (s)	23.0	23.0		7.2	7.2		71.8	71.8		71.8	71.8	
Effective Green, g (s)	23.0	23.0		7.2	7.2		71.8	71.8		71.8	71.8	
Actuated g/C Ratio	0.19	0.19		0.06	0.06		0.60	0.60		0.60	0.60	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	489	311		62	100		288	3030		275	3009	
v/s Ratio Prot		0.01			0.02			c0.20			0.19	
v/s Ratio Perm	c0.23			c0.03			0.10			0.06		
v/c Ratio	1.22	0.06		0.48	0.28		0.17	0.33		0.11	0.32	
Uniform Delay, d1	48.5	39.7		54.6	53.9		10.8	12.1		10.3	12.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	116.7	0.1		2.2	0.6		1.3	0.3		0.8	0.3	
Delay (s)	165.2	39.8		56.8	54.5		12.1	12.4		11.1	12.3	
Level of Service	F	D		E	D		B	B		B	B	
Approach Delay (s)		153.6			55.1			12.4			12.2	
Approach LOS		F			E			B			B	

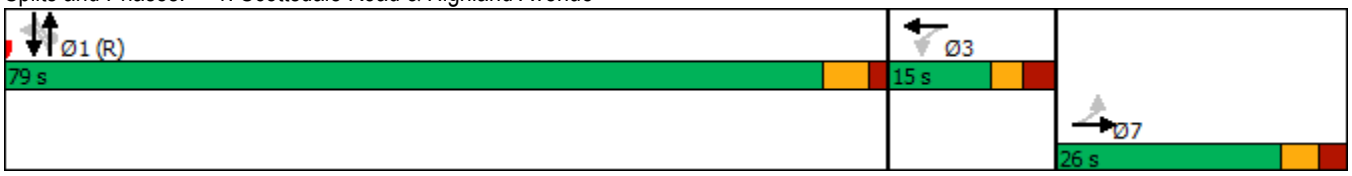
Intersection Summary			
HCM 2000 Control Delay	46.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Phase Number	1	3	7
Movement	NBSB	WBTL	EBTL
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	None	None
Maximum Split (s)	79	15	26
Maximum Split (%)	65.8%	12.5%	21.7%
Minimum Split (s)	79	31	31
Yellow Time (s)	4.2	2.9	3.4
All-Red Time (s)	1.8	3.1	2.6
Minimum Initial (s)	73	9	20
Vehicle Extension (s)	3	2	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	14	6	6
Flash Dont Walk (s)	16	19	19
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	30	109	4
End Time (s)	109	4	30
Yield/Force Off (s)	103	118	24
Yield/Force Off 170(s)	87	99	5
Local Start Time (s)	0	79	94
Local Yield (s)	73	88	114
Local Yield 170(s)	57	69	95

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	145
Offset: 30 (25%), Referenced to phase 1:NBSB, Start of Green	

Splits and Phases: 1: Scottsdale Road & Highland Avenue



HCM 6th Edition methodology expects standard NEMA quad ring-barrier structure. Does not support multiple barriers.

Intersection	
Int Delay, s/veh	0.1

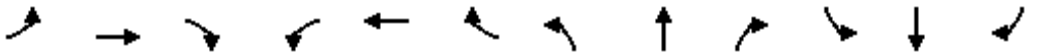
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	26	986	5	0	916
Future Vol, veh/h	0	26	986	5	0	916
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	200	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	27	1027	5	0	954

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	514	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*700	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		1	-	-		-
Mov Cap-1 Maneuver	-	*700	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	700	-
HCM Lane V/C Ratio	-	-	0.039	-
HCM Control Delay (s)	-	-	10.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	2	72	65	0	37	57	907	30	33	877	47
Future Volume (vph)	36	2	72	65	0	37	57	907	30	33	877	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0			7.0		4.0	6.0		4.0	6.0	6.0
Lane Util. Factor	1.00	1.00			1.00		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.85			0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1591			1717		1770	5061		1770	5085	1583
Flt Permitted	0.72	1.00			0.76		0.28	1.00		0.28	1.00	1.00
Satd. Flow (perm)	1349	1591			1349		517	5061		516	5085	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	38	2	75	68	0	39	59	945	31	34	914	49
RTOR Reduction (vph)	0	65	0	0	68	0	0	3	0	0	0	19
Lane Group Flow (vph)	38	12	0	0	39	0	59	973	0	34	914	30
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		3			3		6	1		2	5	
Permitted Phases	3			3			1			5		5
Actuated Green, G (s)	13.0	13.0			13.0		70.0	62.0		66.0	60.0	60.0
Effective Green, g (s)	13.0	13.0			13.0		70.0	62.0		66.0	60.0	60.0
Actuated g/C Ratio	0.13	0.13			0.13		0.71	0.63		0.67	0.61	0.61
Clearance Time (s)	7.0	7.0			7.0		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	1.5	1.5			1.5		1.0	0.2		1.0	0.2	0.2
Lane Grp Cap (vph)	178	211			178		471	3201		424	3113	969
v/s Ratio Prot		0.01					c0.01	c0.19		0.00	0.18	
v/s Ratio Perm	0.03				c0.03		0.08			0.05		0.02
v/c Ratio	0.21	0.06			0.22		0.13	0.30		0.08	0.29	0.03
Uniform Delay, d1	37.9	37.1			38.0		4.3	8.2		5.3	9.0	7.5
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.0			0.2		0.0	0.2		0.0	0.2	0.1
Delay (s)	38.2	37.2			38.2		4.3	8.4		5.4	9.2	7.6
Level of Service	D	D			D		A	A		A	A	A
Approach Delay (s)		37.5			38.2			8.2			9.0	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Phase Number	1	2	3	5	6
Movement	NBTL	SBL	EBWB	SBTL	NBL
Lead/Lag	Lag	Lead		Lag	Lead
Lead-Lag Optimize	Yes	Yes		Yes	Yes
Recall Mode	C-Max	None	None	C-Max	None
Maximum Split (s)	64	14	20	64	14
Maximum Split (%)	65.3%	14.3%	20.4%	65.3%	14.3%
Minimum Split (s)	67	22.5	34	70	24
Yellow Time (s)	4.5	3	3.1	4.5	3
All-Red Time (s)	1.5	1	3.9	1.5	1
Minimum Initial (s)	58	10	13	58	10
Vehicle Extension (s)	0.2	1	1.5	0.2	1
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	20	0	6	0	20
Flash Dont Walk (s)	10	0	20	10	0
Dual Entry	Yes	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes
Start Time (s)	35	21	1	35	21
End Time (s)	1	35	21	1	35
Yield/Force Off (s)	93	31	14	93	31
Yield/Force Off 170(s)	83	31	92	83	31
Local Start Time (s)	0	84	64	0	84
Local Yield (s)	58	94	77	58	94
Local Yield 170(s)	48	94	57	48	94

Intersection Summary	
Cycle Length	98
Control Type	Actuated-Coordinated
Natural Cycle	130
Offset: 35 (36%), Referenced to phase 1:NBTL and 5:SBTL, Start of Green	

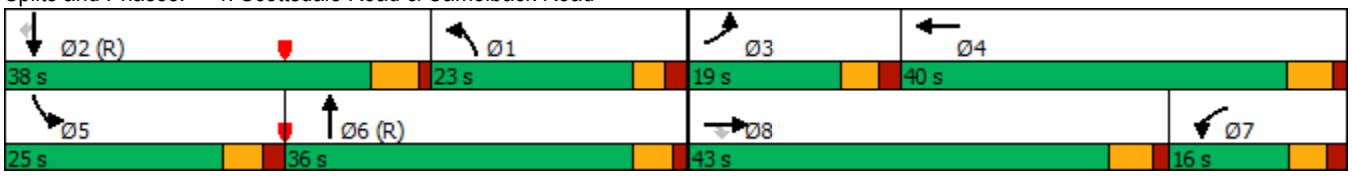
Splits and Phases: 3: Scottsdale Road & Fashion Square

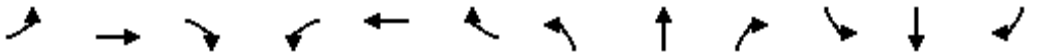
HCM 6th Edition methodology does not support Non-NEMA phasing.

Phase Number	1	2	3	4	5	6	7	8
Movement	NBL	SBT	EBL	WBT	SBL	NBT	WBL	EBT
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	23	38	19	40	25	36	16	43
Maximum Split (%)	19.2%	31.7%	15.8%	33.3%	20.8%	30.0%	13.3%	35.8%
Minimum Split (s)	45	45	42	43.5	45	36	22.5	37.5
Yellow Time (s)	3	4.4	3.3	4	3.6	3.6	3.3	4
All-Red Time (s)	2	1	2	1.5	2	1.4	2	1.5
Minimum Initial (s)	5	10	5	7	5	10	5	7
Vehicle Extension (s)	2	2	2	2	2	2	2	2
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		23		31		24		25
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	53	15	76	95	15	40	119	76
End Time (s)	76	53	95	15	40	76	15	119
Yield/Force Off (s)	71	47.6	89.7	9.5	34.4	71	9.7	113.5
Yield/Force Off 170(s)	71	24.6	89.7	98.5	34.4	47	9.7	88.5
Local Start Time (s)	13	95	36	55	95	0	79	36
Local Yield (s)	31	7.6	49.7	89.5	114.4	31	89.7	73.5
Local Yield 170(s)	31	104.6	49.7	58.5	114.4	7	89.7	48.5

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	180
Offset: 40 (33%), Referenced to phase 2:SBT and 6:NBT, Start of Green	

Splits and Phases: 4: Scottsdale Road & Camelback Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	474	210	77	438	175	249	673	90	298	582	226
Future Volume (veh/h)	199	474	210	77	438	175	249	673	90	298	582	226
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	209	499	221	81	461	184	262	708	95	314	613	238
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	611	273	210	532	211	900	1923	256	375	965	431
Arrive On Green	0.08	0.17	0.17	0.12	0.21	0.21	0.26	0.42	0.42	0.11	0.27	0.27
Sat Flow, veh/h	3456	3554	1585	1781	2486	984	3456	4559	606	3456	3554	1585
Grp Volume(v), veh/h	209	499	221	81	329	316	262	527	276	314	613	238
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1693	1728	1702	1761	1728	1777	1585
Q Serve(g_s), s	7.1	16.2	16.1	5.0	21.4	21.7	7.3	12.7	12.9	10.7	18.2	11.9
Cycle Q Clear(g_c), s	7.1	16.2	16.1	5.0	21.4	21.7	7.3	12.7	12.9	10.7	18.2	11.9
Prop In Lane	1.00		1.00	1.00		0.58	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	267	611	273	210	380	362	900	1436	743	375	965	431
V/C Ratio(X)	0.78	0.82	0.81	0.39	0.86	0.87	0.29	0.37	0.37	0.84	0.63	0.55
Avail Cap(c_a), veh/h	395	1111	495	210	511	487	900	1436	743	559	965	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	54.4	47.9	47.8	48.9	45.5	45.6	35.5	23.7	23.8	52.4	38.5	22.3
Incr Delay (d2), s/veh	3.2	1.0	2.2	0.4	9.0	10.3	0.1	0.7	1.4	4.4	3.1	4.9
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 BackOfQ(50%),veh/ln	3.2	7.2	6.5	2.3	10.3	10.0	3.0	5.1	5.5	4.8	8.2	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	48.9	50.0	49.4	54.5	55.9	35.6	24.5	25.2	56.8	41.6	27.2
LnGrp LOS	E	D	D	D	D	E	D	C	C	E	D	C
Approach Vol, veh/h		929			726			1065			1165	
Approach Delay, s/veh		51.1			54.5			27.4			42.7	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	36.2	38.0	14.6	31.2	18.6	55.6	19.6	26.1
Change Period (Y+Rc), s	5.0	5.4	* 5.3	5.5	5.6	* 5	5.5	* 5.5
Max Green Setting (Gmax), s	18.0	32.6	* 14	34.5	19.4	* 31	10.7	* 38
Max Q Clear Time (g_c+I1), s	9.3	20.2	9.1	23.7	12.7	14.9	7.0	18.2
Green Ext Time (p_c), s	0.3	2.5	0.2	2.0	0.3	3.0	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	42.7
HCM 6th LOS	D

Notes

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

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

Intersection	
Int Delay, s/veh	5.2

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	22	43	0	9	93	0
Future Vol, veh/h	22	43	0	9	93	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	55	0	12	119	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	83	0	68	56
Stage 1	-	-	-	-	56	-
Stage 2	-	-	-	-	12	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1517	-	944	1018
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1517	-	944	1018
Mov Cap-2 Maneuver	-	-	-	-	944	-
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	1011	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	944	-	-	1517	-
HCM Lane V/C Ratio	0.126	-	-	-	-
HCM Control Delay (s)	9.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	3	0	25	2	0
Future Vol, veh/h	3	3	0	25	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	4	0	33	3	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	8	0	39	6
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	33	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1612	-	973	1077
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	989	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1612	-	973	1077
Mov Cap-2 Maneuver	-	-	-	-	973	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	989	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	973	-	-	1612	-
HCM Lane V/C Ratio	0.003	-	-	-	-
HCM Control Delay (s)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	0	2	20	0	3
Future Vol, veh/h	7	0	2	20	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	0	3	27	0	4

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	21	17	0	0	30	0
Stage 1	17	-	-	-	-	-
Stage 2	4	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	996	1062	-	-	1583	-
Stage 1	1006	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	996	1062	-	-	1583	-
Mov Cap-2 Maneuver	996	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	1019	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	996	1583	-
HCM Lane V/C Ratio	-	-	0.009	-	-
HCM Control Delay (s)	-	-	8.6	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Appendix F – Trip Generation

Hazel and Azure
Zom Living

Completed: SS 12/21/2021
Checked:

Trip Generation Calculations
11th Edition

Building A Residential

230 Low-Rise Residential with Ground-Floor Commercial GFA (1-25k)

Land Use	ITE Code	Qty	Unit	Weekday Rate	Weekday % In	Weekday % Out	AM Peak Hour Rate	AM Peak Hour % In	AM Peak Hour % Out	PM Peak Hour Rate	PM Peak Hour % In	PM Peak Hour % Out	Weekday Total	Weekday In	Weekday Out	AM Peak Hour Total	AM Peak Hour In	AM Peak Hour Out	PM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	
Low-Rise Residential with Ground-Floor Commercial GFA (1-25k)	230	360	Dwelling Units	3.44	50%	50%	0.44	23%	77%	0.36	71%	29%	1,238	619	619	158	36	122	130	92	38	Average
Low-Rise Residential with Ground-Floor Commercial GFA (1-25k)	230	360	Dwelling Units	3.44	50%	50%	0.27	23%	77%	0.3	71%	29%	1,238	619	619	97	22	75	108	77	31	Minimum
Low-Rise Residential with Ground-Floor Commercial GFA (1-25k)	230	360	Dwelling Units	3.44	50%	50%	0.67	23%	77%	0.44	71%	29%	1,238	619	619	241	55	186	158	112	46	Maximum
Land Use	ITE Code	Qty	Unit	Weekday Equation	Weekday % In	Weekday % Out	AM Peak Hour Equation	AM Peak Hour % In	AM Peak Hour % Out	PM Peak Hour Equation	PM Peak Hour % In	PM Peak Hour % Out	Weekday Total	Weekday In	Weekday Out	AM Peak Hour Total	AM Peak Hour In	AM Peak Hour Out	PM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	
Low-Rise Residential with Ground-Floor Commercial GFA (1-25k)	230	360	Dwelling Units	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Equation

Low-Rise Residential with Ground-Floor Commercial GFA (1-25k)	Standard Deviation	N/A		N/A		N/A
	Number of Studies	1		2		2
	Average Size	422		365		365
	R^2	N/A		N/A		N/A

Building B Residential

230 Low-Rise Residential with Ground-Floor Commercial GFA (1-25k)

Land Use	ITE Code	Qty	Unit	Weekday Rate	Weekday % In	Weekday % Out	AM Peak Hour Rate	AM Peak Hour % In	AM Peak Hour % Out	PM Peak Hour Rate	PM Peak Hour % In	PM Peak Hour % Out	Weekday Total	Weekday In	Weekday Out	AM Peak Hour Total	AM Peak Hour In	AM Peak Hour Out	PM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	
Low-Rise Residential with Ground-Floor Commercial GFA (1-25k)	230	174	Dwelling Units	3.44	50%	50%	0.44	23%	77%	0.36	71%	29%	599	300	299	77	18	59	63	45	18	Average
Low-Rise Residential with Ground-Floor Commercial GFA (1-25k)	230	174	Dwelling Units	3.44	50%	50%	0.27	23%	77%	0.3	71%	29%	599	300	299	47	11	36	52	37	15	Minimum
Low-Rise Residential with Ground-Floor Commercial GFA (1-25k)	230	174	Dwelling Units	3.44	50%	50%	0.67	23%	77%	0.44	71%	29%	599	300	299	117	27	90	77	55	22	Maximum
Land Use	ITE Code	Qty	Unit	Weekday Equation	Weekday % In	Weekday % Out	AM Peak Hour Equation	AM Peak Hour % In	AM Peak Hour % Out	PM Peak Hour Equation	PM Peak Hour % In	PM Peak Hour % Out	Weekday Total	Weekday In	Weekday Out	AM Peak Hour Total	AM Peak Hour In	AM Peak Hour Out	PM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	
Low-Rise Residential with Ground-Floor Commercial GFA (1-25k)	230	174	Dwelling Units	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Equation

Low-Rise Residential with Ground-Floor Commercial GFA (1-25k)	Standard Deviation	N/A		N/A		N/A
	Number of Studies	1		2		2
	Average Size	422		365		365
	R^2	N/A		N/A		N/A

Gramercy Site

Zom Living

Completed: SS 12/21/2021

Checked:

Trip Generation Calculations

11th Edition

221 - Multifamily Housing (Mid-Rise)	(Three to Ten Levels)																					
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour			
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Multifamily Housing (Mid-Rise)	221	160	Dwelling Units	4.54	50%	50%	0.37	23%	77%	0.39	61%	39%	726	363	363	59	14	45	62	38	24	Average
Multifamily Housing (Mid-Rise)	221	160	Dwelling Units	3.76	50%	50%	0.15	23%	77%	0.19	61%	39%	602	301	301	24	6	18	30	18	12	Minimum
Multifamily Housing (Mid-Rise)	221	160	Dwelling Units	5.40	50%	50%	0.53	23%	77%	0.57	61%	39%	864	432	432	85	20	65	91	56	35	Maximum
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour			
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Multifamily Housing (Mid-Rise)	**221**	**160**	**Dwelling Units**	**T=4.77(X)-46.46**	**50%**	**50%**	**T=0.44(X)-11.61**	**23%**	**77%**	**T=0.39(X)+0.34**	**61%**	**39%**	**717**	**359**	**358**	**59**	**14**	**45**	**63**	**38**	**25**	**Equation**

		Weekday	AM Peak Hour	PM Peak Hour
Multifamily Housing (Mid-Rise)	Standard Deviation	0.51	0.09	0.08
	Number of Studies	11	30	31
	Average Size	201	173	169
	R^2	0.93	0.91	0.91

Appendix G – MAG Socioeconomic Projections

Lokahi

G

Socioeconomic Projections

Population and Employment

by Municipal Planning Area, Jurisdiction, and Regional Analysis Zone

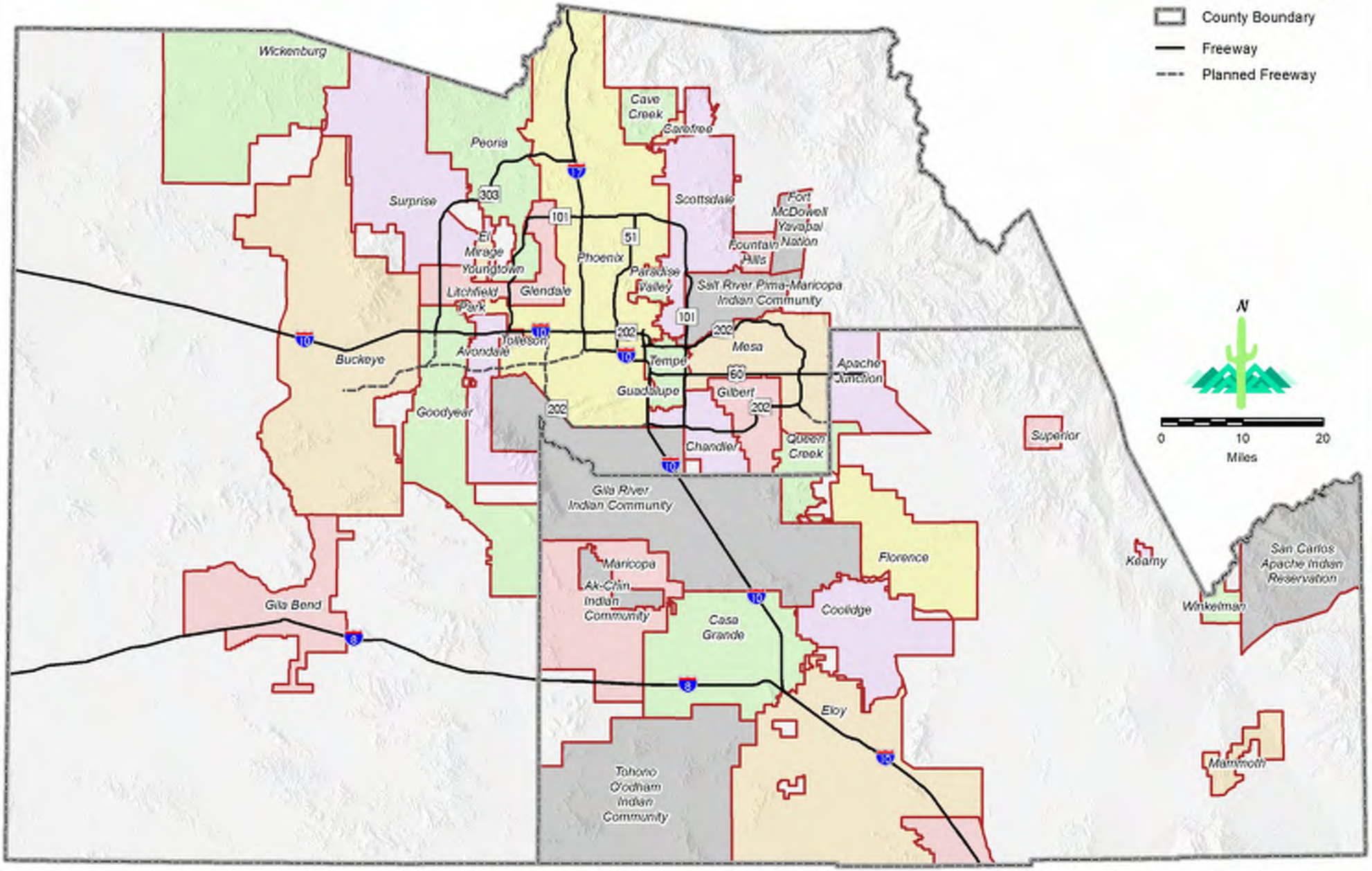
June 2019

MARICOPA ASSOCIATION of GOVERNMENTS

302 North 1st Avenue, Suite 300
Phoenix, Arizona 85003
(602) 254-6300

Municipal Planning Areas (MPA), 2019
Maricopa and Pinal Counties, Arizona

MARICOPA ASSOCIATION of GOVERNMENTS



Source: MAG and the MAG member agencies, CAG and the CAG member agencies

Date: May 2019

Maricopa Association of Governments
Table 1: Total Population by Municipal Planning Area
July 1, 2018 and Projections July 1, 2020 to July 1, 2055

Municipal Planning Area	Total Population					
	2018	2020	2030	2040	2050	2055
Apache Junction	59,000	60,800	70,000	92,000	117,100	132,600
Avondale	84,200	86,700	101,800	111,900	119,000	122,100
Buckeye	89,000	97,700	186,600	305,400	409,900	459,300
Carefree	3,700	3,800	4,100	4,200	4,200	4,300
Cave Creek	5,900	6,000	6,500	7,000	7,200	7,300
Chandler	270,300	279,500	309,100	321,100	329,000	332,400
El Mirage	34,300	35,100	36,500	36,900	37,200	37,200
Florence	79,400	85,500	120,300	160,500	209,900	231,400
Fort McDowell Yavapai Native Nation	1,000	1,100	1,100	1,100	1,100	1,100
Fountain Hills	24,000	24,700	26,200	26,600	26,900	27,000
Gila Bend	2,500	2,700	3,700	3,700	3,900	4,200
Gila River Indian Native Nation	12,000	12,200	12,300	12,300	12,300	12,300
Gilbert	256,500	265,900	293,500	308,800	318,100	321,400
Glendale	272,200	279,100	306,400	323,400	333,200	338,800
Goodyear	87,300	92,100	140,300	192,200	228,600	247,900
Guadalupe	6,300	6,400	6,700	6,800	6,800	6,800
Litchfield Park	13,300	14,000	15,400	15,700	16,100	16,400
Maricopa	59,800	67,000	90,800	106,400	121,600	128,900
Mesa	533,400	552,800	607,500	649,400	680,000	690,300
Paradise Valley	14,000	14,100	14,700	15,100	15,200	15,300
Peoria	188,500	196,600	232,400	273,700	312,600	329,900
Phoenix	1,653,500	1,697,700	1,881,900	2,019,300	2,117,400	2,155,300
Queen Creek	58,700	65,000	90,900	109,000	120,900	128,500
Salt River Pima-Maricopa Native Nation	6,800	6,100	5,700	5,800	5,800	5,800
Scottsdale	245,500	253,800	281,900	299,400	311,400	316,700
Surprise	144,000	150,300	216,700	307,500	383,300	417,200
Tempe	185,300	190,000	217,100	247,000	272,400	282,200
Tolleson	7,000	7,100	8,600	10,300	11,400	11,800
Unicorporated Pinal County	66,800	68,600	79,100	93,700	110,800	122,700
Unincorporated Maricopa County	97,900	101,200	110,500	116,800	137,000	152,600
Wickenburg	8,200	8,500	9,400	9,500	9,800	10,000
Youngtown	6,600	6,800	7,300	7,700	7,800	7,800

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2019

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

Maricopa Association of Governments
Table 2: Total Employment by Municipal Planning Area
July 1, 2018 and Projections July 1, 2020 to July 1, 2055

	Total Employment					
Municipal Planning Area	2018	2020	2030	2040	2050	2055
Apache Junction	7,800	8,800	13,100	17,800	26,400	30,500
Avondale	22,400	23,200	30,400	36,200	42,800	45,400
Buckeye	21,600	26,900	42,900	64,500	98,000	128,900
Carefree	1,600	1,600	2,100	2,400	2,500	2,600
Cave Creek	2,200	2,400	2,700	2,900	3,000	3,200
Chandler	145,500	154,700	182,300	202,100	215,200	222,000
El Mirage	5,000	5,100	6,500	7,200	8,000	8,900
Florence	11,000	12,100	17,000	26,400	40,900	51,100
Fort McDowell Yavapai Native Nation	2,200	2,400	2,400	2,500	2,600	2,600
Fountain Hills	7,100	7,700	9,100	9,800	10,200	10,300
Gila Bend	900	900	1,200	1,300	1,500	1,700
Gila River Indian Native Nation	10,500	10,700	11,500	13,100	14,800	15,500
Gilbert	92,800	98,600	120,200	135,900	146,600	152,200
Glendale	103,800	111,400	134,000	153,100	168,900	175,900
Goodyear	35,900	37,200	50,600	69,000	92,600	102,500
Guadalupe	1,300	1,300	1,500	1,600	1,600	1,600
Litchfield Park	3,800	4,400	5,200	5,900	6,400	6,700
Maricopa	6,200	7,100	11,400	18,200	28,200	33,500
Mesa	197,200	205,900	249,000	296,000	333,700	351,000
Paradise Valley	6,300	6,300	6,800	7,100	7,500	7,700
Peoria	58,200	62,400	73,100	84,800	91,900	96,300
Phoenix	897,700	937,600	1,084,000	1,189,200	1,264,900	1,298,900
Queen Creek	15,500	16,400	19,900	24,000	28,900	31,100
Salt River Pima-Maricopa Native Nation	21,200	22,900	28,200	33,900	35,900	36,400
Scottsdale	197,200	207,400	235,500	252,000	261,700	267,000
Surprise	33,600	36,400	59,500	86,400	113,400	130,500
Tempe	190,000	200,500	231,200	257,700	280,000	290,900
Tolleson	17,700	18,300	21,200	23,900	26,000	26,700
Unicorporated Pinal County	3,500	3,900	6,000	8,900	13,500	17,800
Unincorporated Maricopa County	28,600	31,500	35,500	41,100	51,200	58,400
Wickenburg	4,400	4,600	5,200	5,600	6,000	6,200
Youngtown	1,500	1,800	2,200	2,700	2,800	3,100

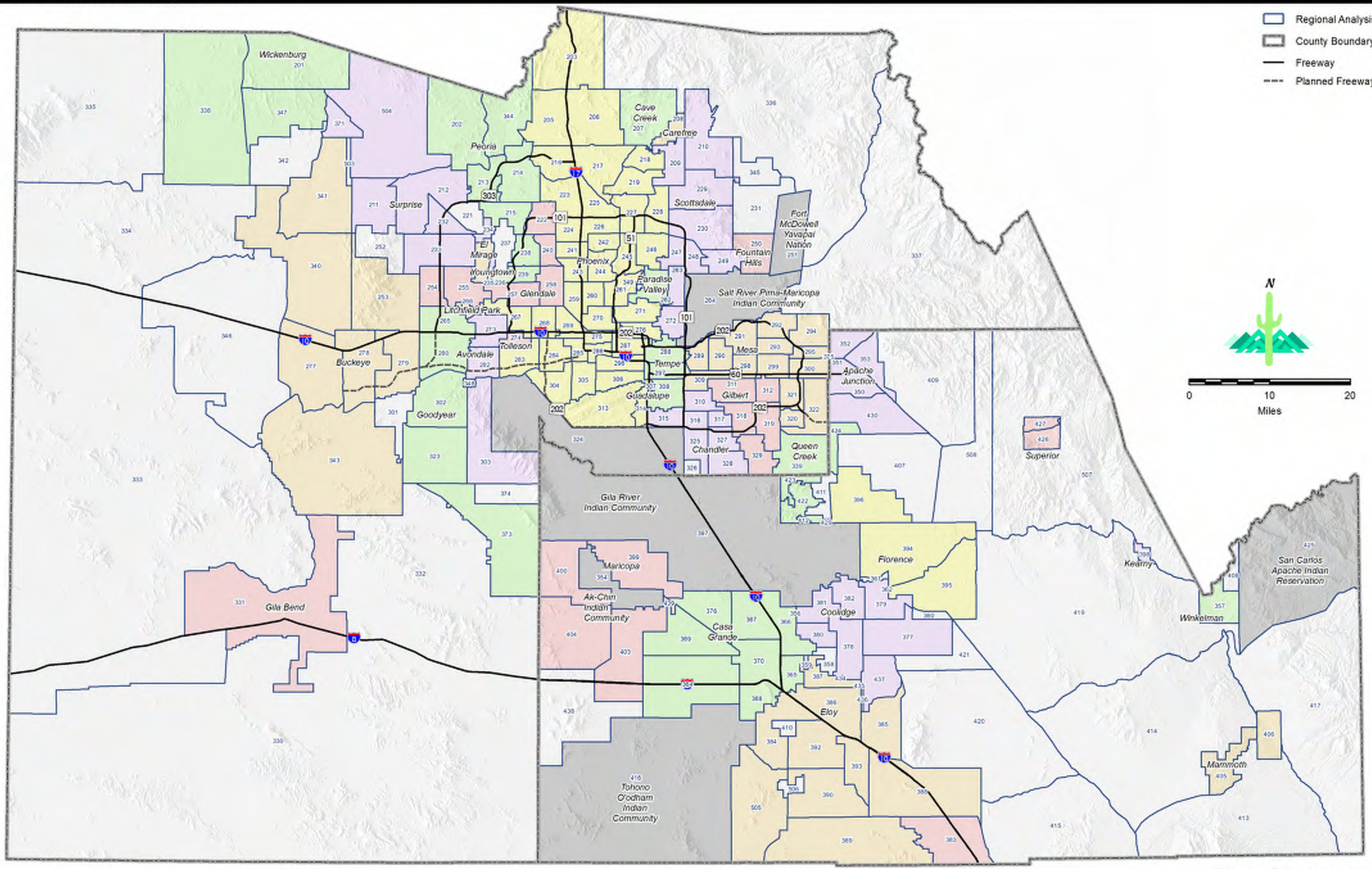
Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2019

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

Regional Analysis Zones (RAZ), 2019
Maricopa and Pinal Counties, Arizona

MARICOPA ASSOCIATION of GOVERNMENTS



Source: MAG and the MAG member agencies, CAG and the CAG member agencies

Date: May 2019

Maricopa Association of Governments
Table 4: Population by Regional Analysis Zone (RAZ) by MPA
July 1, 2018 and Projections July 1, 2020 to July 1, 2055

RAZ	County	Total Population					
		2018	2020	2030	2040	2050	2055
	Total	1,653,469	1,697,722	1,881,876	2,019,269	2,117,427	2,155,333
Queen Creek MPA							
339	Maricopa County	49,781	53,579	72,670	82,172	87,155	89,586
422	Pinal County	13	13	300	437	564	638
423	Pinal County	1,286	1,410	3,714	6,136	7,457	8,686
424	Pinal County	7,642	10,003	14,200	20,287	25,759	29,586
	Total	58,722	65,005	90,884	109,032	120,935	128,496
Salt River Pima-Maricopa Native Nation MPA							
264	Maricopa County	6,798	6,073	5,708	5,820	5,820	5,820
	Total	6,798	6,073	5,708	5,820	5,820	5,820
Scottsdale MPA							
209	Maricopa County	12,188	12,605	13,961	14,512	14,984	15,255
210	Maricopa County	6,013	6,591	10,463	12,339	13,491	13,961
229	Maricopa County	20,542	21,269	25,221	27,864	29,698	30,229
230	Maricopa County	32,232	33,028	38,882	43,580	46,789	48,510
247	Maricopa County	13,549	13,858	15,420	16,342	16,871	17,019
248	Maricopa County	36,178	37,227	38,468	38,807	39,048	39,143
249	Maricopa County	20,903	21,410	22,543	22,768	22,839	22,848
263	Maricopa County	34,908	35,814	37,002	37,252	37,584	37,773
272	Maricopa County	68,987	71,970	79,910	85,942	90,054	91,927
	Total	245,500	253,772	281,870	299,406	311,358	316,665
Surprise MPA							
211	Maricopa County	863	884	4,471	23,112	36,704	40,737
212	Maricopa County	10,265	11,365	37,615	69,296	85,862	93,806
232	Maricopa County	29,296	30,200	34,506	37,144	37,927	38,313
233	Maricopa County	87,834	91,276	111,822	119,384	123,777	126,523
234	Maricopa County	8,969	9,467	10,460	10,878	11,335	11,488
371	Maricopa County	342	344	434	734	2,584	4,316
504	Maricopa County	6,460	6,718	17,425	46,912	85,127	102,004
	Total	144,029	150,254	216,733	307,460	383,316	417,187
Tempe MPA							
288	Maricopa County	73,442	76,444	100,651	129,202	150,094	157,410
297	Maricopa County	53,146	54,092	56,336	57,432	61,780	64,273
308	Maricopa County	58,756	59,473	60,120	60,348	60,476	60,559
	Total	185,344	190,009	217,107	246,982	272,350	282,242

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), May 2019

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

Maricopa Association of Governments
Table 5: Employment by Regional Analysis Zone (RAZ) by MPA
July 1, 2018 and Projections July 1, 2020 to July 1, 2055

RAZ	County	Total Employment					
		2018	2020	2030	2040	2050	2055
	Total	897,713	937,622	1,083,980	1,189,209	1,264,941	1,298,903
Queen Creek MPA							
339	Maricopa County	13,933	14,696	16,482	18,825	20,733	21,151
422	Pinal County	9	8	18	22	31	39
423	Pinal County	89	109	351	620	1,068	1,639
424	Pinal County	1,435	1,576	3,073	4,571	7,020	8,309
	Total	15,466	16,389	19,924	24,038	28,852	31,138
Salt River Pima-Maricopa Native Nation MPA							
264	Maricopa County	21,160	22,869	28,215	33,871	35,903	36,442
	Total	21,160	22,869	28,215	33,871	35,903	36,442
Scottsdale MPA							
209	Maricopa County	4,488	4,659	4,851	5,174	5,161	5,344
210	Maricopa County	2,386	3,018	2,759	3,091	3,139	3,191
229	Maricopa County	9,604	10,005	11,231	11,962	12,193	12,896
230	Maricopa County	23,272	24,919	32,112	36,968	40,834	42,136
247	Maricopa County	44,254	47,089	52,652	54,822	55,679	56,105
248	Maricopa County	29,603	30,901	33,285	34,001	34,234	34,548
249	Maricopa County	7,409	7,692	8,179	8,684	8,906	9,045
263	Maricopa County	26,351	26,961	28,903	30,245	30,919	31,381
272	Maricopa County	49,833	52,185	61,540	67,039	70,676	72,330
	Total	197,200	207,429	235,512	251,986	261,741	266,976
Surprise MPA							
211	Maricopa County	60	53	1,560	3,172	4,766	7,017
212	Maricopa County	2,008	2,338	5,821	9,965	13,362	15,709
232	Maricopa County	8,349	9,228	11,297	12,187	12,875	13,116
233	Maricopa County	19,943	21,079	32,661	44,032	52,007	57,402
234	Maricopa County	2,588	2,711	3,354	3,922	4,239	4,386
371	Maricopa County	18	20	327	423	2,381	2,937
504	Maricopa County	677	1,020	4,460	12,695	23,763	29,886
	Total	33,643	36,449	59,480	86,396	113,393	130,453
Tempe MPA							
288	Maricopa County	88,927	94,229	111,010	128,894	144,714	152,703
297	Maricopa County	44,730	47,069	53,149	57,125	60,725	62,552
308	Maricopa County	56,380	59,208	67,052	71,701	74,542	75,596
	Total	190,037	200,506	231,211	257,720	279,981	290,851

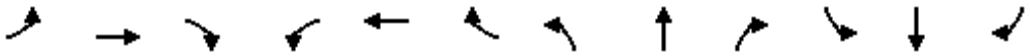
Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), May 2019

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

Appendix H – Year 2023 No Build Capacity Analysis

H



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	328	19	15	9	3	23	20	658	41	49	584	41
Future Volume (vph)	328	19	15	9	3	23	20	658	41	49	584	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frt	1.00	0.94		1.00	0.87		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1742		1770	1613		1770	5040		1770	5035	
Flt Permitted	0.74	1.00		0.65	1.00		0.37	1.00		0.34	1.00	
Satd. Flow (perm)	2670	1742		1202	1613		698	5040		633	5035	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	357	21	16	10	3	25	22	715	45	53	635	45
RTOR Reduction (vph)	0	13	0	0	24	0	0	5	0	0	6	0
Lane Group Flow (vph)	357	24	0	10	4	0	22	755	0	53	674	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		7			3			1			1	
Permitted Phases	7			3			1			1		
Actuated Green, G (s)	21.9	21.9		6.2	6.2		73.9	73.9		73.9	73.9	
Effective Green, g (s)	21.9	21.9		6.2	6.2		73.9	73.9		73.9	73.9	
Actuated g/C Ratio	0.18	0.18		0.05	0.05		0.62	0.62		0.62	0.62	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	487	317		62	83		429	3103		389	3100	
v/s Ratio Prot		0.01			0.00			c0.15			0.13	
v/s Ratio Perm	c0.13			c0.01			0.03			0.08		
v/c Ratio	0.73	0.08		0.16	0.05		0.05	0.24		0.14	0.22	
Uniform Delay, d1	46.3	40.7		54.4	54.1		9.1	10.4		9.7	10.2	
Progression Factor	1.00	1.00		1.00	1.00		0.66	0.65		1.00	1.00	
Incremental Delay, d2	5.6	0.1		0.4	0.1		0.2	0.2		0.7	0.2	
Delay (s)	51.9	40.8		54.9	54.2		6.2	7.0		10.4	10.4	
Level of Service	D	D		D	D		A	A		B	B	
Approach Delay (s)		50.9			54.4			6.9			10.4	
Approach LOS		D			D			A			B	

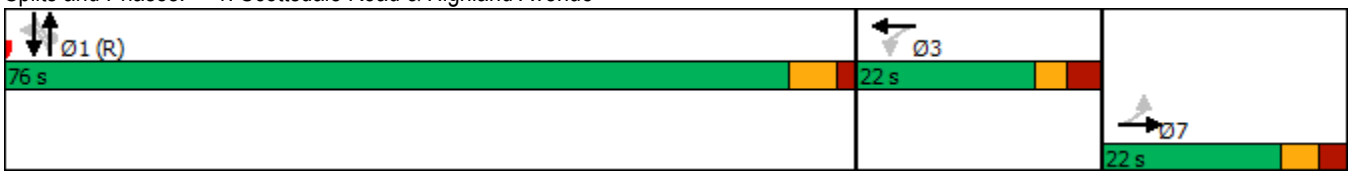
Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Phase Number	1	3	7
Movement	NBSB	WBTL	EBTL
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	None	None
Maximum Split (s)	76	22	22
Maximum Split (%)	63.3%	18.3%	18.3%
Minimum Split (s)	79	31	31
Yellow Time (s)	4.2	2.9	3.4
All-Red Time (s)	1.8	3.1	2.6
Minimum Initial (s)	73	9	20
Vehicle Extension (s)	3	2	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	14	6	6
Flash Dont Walk (s)	16	19	19
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	39	115	17
End Time (s)	115	17	39
Yield/Force Off (s)	109	11	33
Yield/Force Off 170(s)	93	112	14
Local Start Time (s)	0	76	98
Local Yield (s)	70	92	114
Local Yield 170(s)	54	73	95

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	145
Offset: 39 (33%), Referenced to phase 1:NBSB, Start of Green	

Splits and Phases: 1: Scottsdale Road & Highland Avenue



HCM 6th Edition methodology expects standard NEMA quad ring-barrier structure. Does not support multiple barriers.

Intersection	
Int Delay, s/veh	0.1

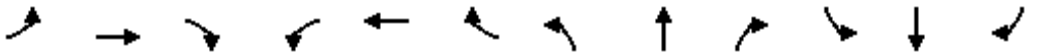
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	15	695	13	0	635
Future Vol, veh/h	0	15	695	13	0	635
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	200	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	755	14	0	690

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	378	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*761	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		1	-	-		-
Mov Cap-1 Maneuver	-	*761	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	761	-
HCM Lane V/C Ratio	-	-	0.021	-
HCM Control Delay (s)	-	-	9.8	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	8	11	0	18	41	676	21	14	591	17
Future Volume (vph)	3	0	8	11	0	18	41	676	21	14	591	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0			7.0		4.0	6.0		4.0	6.0	6.0
Lane Util. Factor	1.00	1.00			1.00		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.85			0.92		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1583			1674		1770	5062		1770	5085	1583
Flt Permitted	0.74	1.00			0.89		0.37	1.00		0.35	1.00	1.00
Satd. Flow (perm)	1372	1583			1525		694	5062		656	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	0	9	12	0	20	45	735	23	15	642	18
RTOR Reduction (vph)	0	8	0	0	28	0	0	2	0	0	0	7
Lane Group Flow (vph)	3	1	0	0	4	0	45	756	0	15	642	11
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		3			3		6	1		2	5	
Permitted Phases	3			3			1			5		5
Actuated Green, G (s)	15.6	15.6			15.6		91.4	81.0		81.0	74.6	74.6
Effective Green, g (s)	15.6	15.6			15.6		91.4	81.0		81.0	74.6	74.6
Actuated g/C Ratio	0.13	0.13			0.13		0.76	0.68		0.68	0.62	0.62
Clearance Time (s)	7.0	7.0			7.0		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	178	205			198		643	3416		502	3161	984
v/s Ratio Prot		0.00					c0.01	c0.15		0.00	0.13	
v/s Ratio Perm	0.00				c0.00		0.05			0.02		0.01
v/c Ratio	0.02	0.01			0.02		0.07	0.22		0.03	0.20	0.01
Uniform Delay, d1	45.5	45.4			45.5		3.6	7.5		6.4	9.8	8.6
Progression Factor	1.00	1.00			1.00		1.00	1.00		0.30	0.40	1.00
Incremental Delay, d2	0.0	0.0			0.0		0.0	0.1		0.0	0.1	0.0
Delay (s)	45.6	45.5			45.6		3.6	7.6		2.0	4.0	8.7
Level of Service	D	D			D		A	A		A	A	A
Approach Delay (s)		45.5			45.6			7.4			4.1	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	100.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Phase Number	1	2	3	5	6
Movement	NBTL	SBL	EBWB	SBTL	NBL
Lead/Lag	Lag	Lead		Lag	Lead
Lead-Lag Optimize	Yes	Yes		Yes	Yes
Recall Mode	C-Max	None	None	C-Max	None
Maximum Split (s)	65.5	21.5	33	65.5	21.5
Maximum Split (%)	54.6%	17.9%	27.5%	54.6%	17.9%
Minimum Split (s)	67	22.5	34	67	22.5
Yellow Time (s)	4.5	3	3.1	4.5	3
All-Red Time (s)	1.5	1	3.9	1.5	1
Minimum Initial (s)	61	16	26	61	16
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	20	6	7	7	7
Flash Dont Walk (s)	10	0	20	10	0
Dual Entry	Yes	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes
Start Time (s)	58	36.5	3.5	58	36.5
End Time (s)	3.5	58	36.5	3.5	58
Yield/Force Off (s)	117.5	54	29.5	117.5	54
Yield/Force Off 170(s)	107.5	54	9.5	107.5	54
Local Start Time (s)	0	98.5	65.5	0	98.5
Local Yield (s)	59.5	116	91.5	59.5	116
Local Yield 170(s)	49.5	116	71.5	49.5	116

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	125
Offset: 58 (48%), Referenced to phase 1:NBTL and 5:SBTL, Start of Green	

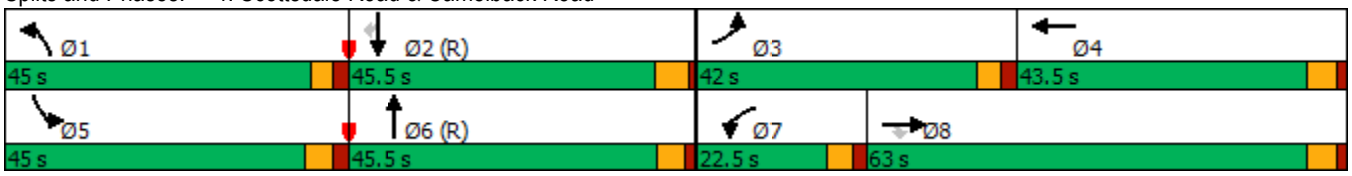
Splits and Phases: 3: Scottsdale Road & Fashion Square

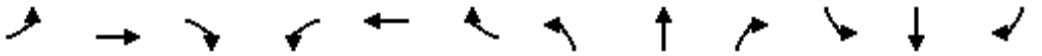
HCM 6th Edition methodology does not support Non-NEMA phasing.

Phase Number	1	2	3	4	5	6	7	8
Movement	NBL	SBT	EBL	WBT	SBL	NBT	WBL	EBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	45	45.5	42	43.5	45	45.5	22.5	63
Maximum Split (%)	25.6%	25.9%	23.9%	24.7%	25.6%	25.9%	12.8%	35.8%
Minimum Split (s)	45	45	42	43.5	45	36	22.5	37.5
Yellow Time (s)	3	4.4	3.3	4	3.6	3.6	3.3	4
All-Red Time (s)	2	1	2	1.5	2	1.4	2	1.5
Minimum Initial (s)	5	10	5	7	5	10	5	7
Vehicle Extension (s)	2	2	2	2	2	2	2	2
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		23		31		24		25
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	54	99	144.5	10.5	54	99	144.5	167
End Time (s)	99	144.5	10.5	54	99	144.5	167	54
Yield/Force Off (s)	94	139.1	5.2	48.5	93.4	139.5	161.7	48.5
Yield/Force Off 170(s)	94	116.1	5.2	17.5	93.4	115.5	161.7	23.5
Local Start Time (s)	131	0	45.5	87.5	131	0	45.5	68
Local Yield (s)	171	40.1	82.2	125.5	170.4	40.5	62.7	125.5
Local Yield 170(s)	171	17.1	82.2	94.5	170.4	16.5	62.7	100.5

Intersection Summary	
Cycle Length	176
Control Type	Actuated-Coordinated
Natural Cycle	180
Offset: 99 (56%), Referenced to phase 2:SBT and 6:NBT, Start of Green	

Splits and Phases: 4: Scottsdale Road & Camelback Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	293	92	80	365	133	88	461	51	109	408	79
Future Volume (veh/h)	142	293	92	80	365	133	88	461	51	109	408	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	154	318	100	87	397	145	96	501	55	118	443	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	609	272	105	444	160	136	2804	304	159	2167	966
Arrive On Green	0.06	0.17	0.17	0.06	0.17	0.17	0.04	0.60	0.60	0.05	0.61	0.61
Sat Flow, veh/h	3456	3554	1585	1781	2558	923	3456	4677	506	3456	3554	1585
Grp Volume(v), veh/h	154	318	100	87	274	268	96	363	193	118	443	86
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1704	1728	1702	1779	1728	1777	1585
Q Serve(g_s), s	7.7	14.3	9.8	8.5	26.5	27.1	4.8	8.4	8.6	5.9	9.8	3.9
Cycle Q Clear(g_c), s	7.7	14.3	9.8	8.5	26.5	27.1	4.8	8.4	8.6	5.9	9.8	3.9
Prop In Lane	1.00		1.00	1.00		0.54	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	196	609	272	105	309	296	136	2041	1067	159	2167	966
V/C Ratio(X)	0.78	0.52	0.37	0.83	0.89	0.90	0.71	0.18	0.18	0.74	0.20	0.09
Avail Cap(c_a), veh/h	721	1161	518	174	384	368	785	2041	1067	774	2167	966
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	81.9	66.4	64.5	81.9	71.0	71.3	83.5	15.8	15.8	82.9	15.3	14.2
Incr Delay (d2), s/veh	2.6	0.3	0.3	6.1	16.6	19.7	2.5	0.2	0.4	2.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	6.6	4.0	4.1	13.5	13.5	2.2	3.3	3.6	2.7	4.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.6	66.6	64.8	88.0	87.7	91.0	86.1	16.0	16.2	85.4	15.5	14.4
LnGrp LOS	F	E	E	F	F	F	F	B	B	F	B	B
Approach Vol, veh/h		572			629			652			647	
Approach Delay, s/veh		71.1			89.1			26.4			28.1	
Approach LOS		E			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	112.7	15.3	36.1	13.7	110.9	15.7	35.7
Change Period (Y+Rc), s	5.0	5.4	* 5.3	5.5	5.6	* 5.4	* 5.3	5.5
Max Green Setting (Gmax), s	40.0	40.1	* 37	38.0	39.4	* 41	* 17	57.5
Max Q Clear Time (g_c+I1), s	6.8	11.8	9.7	29.1	7.9	10.6	10.5	16.3
Green Ext Time (p_c), s	0.2	1.9	0.3	1.5	0.2	2.2	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	20	15	3	15	15	4
Future Vol, veh/h	20	15	3	15	15	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	16	3	16	16	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	38	0	52	30
Stage 1	-	-	-	-	30	-
Stage 2	-	-	-	-	22	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1575	-	962	1051
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	1001	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1575	-	960	1051
Mov Cap-2 Maneuver	-	-	-	-	960	-
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	999	-

Approach	EB	WB	NW
HCM Control Delay, s	0	1.2	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	978	-	-	1575	-
HCM Lane V/C Ratio	0.021	-	-	0.002	-
HCM Control Delay (s)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	11	3	0	15	0	3
Future Vol, veh/h	11	3	0	15	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	3	0	16	0	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	15	0	30	14
Stage 1	-	-	-	-	14	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1603	-	984	1066
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1603	-	984	1066
Mov Cap-2 Maneuver	-	-	-	-	984	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	1007	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1066	-	-	1603	-
HCM Lane V/C Ratio	0.003	-	-	-	-
HCM Control Delay (s)	8.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

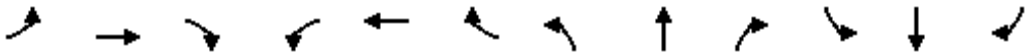
Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	0	6	18	0	0
Future Vol, veh/h	16	0	6	18	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	0	7	20	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	18	17	0	0	27	0
Stage 1	17	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1000	1062	-	-	1587	-
Stage 1	1006	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1000	1062	-	-	1587	-
Mov Cap-2 Maneuver	1000	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1000	1587	-
HCM Lane V/C Ratio	-	-	0.017	-	-
HCM Control Delay (s)	-	-	8.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	572	9	50	30	24	50	47	941	27	29	863	68
Future Volume (vph)	572	9	50	30	24	50	47	941	27	29	863	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frt	1.00	0.87		1.00	0.90		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1627		1770	1674		1770	5064		1770	5030	
Flt Permitted	0.70	1.00		0.56	1.00		0.25	1.00		0.23	1.00	
Satd. Flow (perm)	2548	1627		1035	1674		459	5064		436	5030	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	622	10	54	33	26	54	51	1023	29	32	938	74
RTOR Reduction (vph)	0	44	0	0	51	0	0	2	0	0	8	0
Lane Group Flow (vph)	622	20	0	33	29	0	51	1050	0	32	1004	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		7			3			1			1	
Permitted Phases	7			3			1			1		
Actuated Green, G (s)	23.0	23.0		7.2	7.2		71.8	71.8		71.8	71.8	
Effective Green, g (s)	23.0	23.0		7.2	7.2		71.8	71.8		71.8	71.8	
Actuated g/C Ratio	0.19	0.19		0.06	0.06		0.60	0.60		0.60	0.60	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	488	311		62	100		274	3029		260	3009	
v/s Ratio Prot		0.01			0.02			c0.21			0.20	
v/s Ratio Perm	c0.24			c0.03			0.11			0.07		
v/c Ratio	1.27	0.07		0.53	0.29		0.19	0.35		0.12	0.33	
Uniform Delay, d1	48.5	39.7		54.8	54.0		10.9	12.2		10.4	12.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	138.8	0.1		4.3	0.6		1.5	0.3		1.0	0.3	
Delay (s)	187.3	39.8		59.1	54.6		12.4	12.5		11.4	12.4	
Level of Service	F	D		E	D		B	B		B	B	
Approach Delay (s)		173.5			55.9			12.5			12.4	
Approach LOS		F			E			B			B	

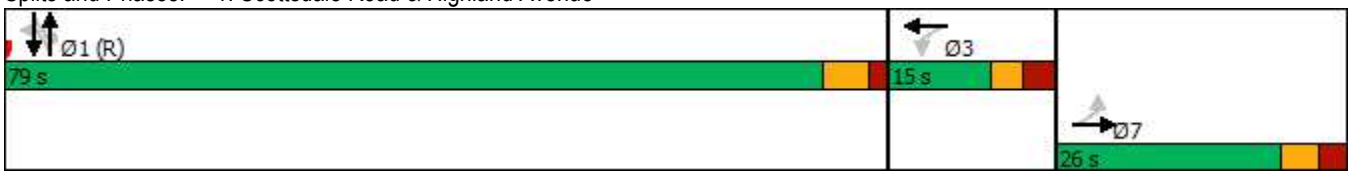
Intersection Summary			
HCM 2000 Control Delay	51.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Phase Number	1	3	7
Movement	NBSB	WBTL	EBTL
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	None	None
Maximum Split (s)	79	15	26
Maximum Split (%)	65.8%	12.5%	21.7%
Minimum Split (s)	79	31	31
Yellow Time (s)	4.2	2.9	3.4
All-Red Time (s)	1.8	3.1	2.6
Minimum Initial (s)	73	9	20
Vehicle Extension (s)	3	2	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	14	6	6
Flash Dont Walk (s)	16	19	19
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	30	109	4
End Time (s)	109	4	30
Yield/Force Off (s)	103	118	24
Yield/Force Off 170(s)	87	99	5
Local Start Time (s)	0	79	94
Local Yield (s)	73	88	114
Local Yield 170(s)	57	69	95

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	145
Offset: 30 (25%), Referenced to phase 1:NBSB, Start of Green	

Splits and Phases: 1: Scottsdale Road & Highland Avenue



HCM 6th Edition methodology expects standard NEMA quad ring-barrier structure. Does not support multiple barriers.

Intersection	
Int Delay, s/veh	0.1

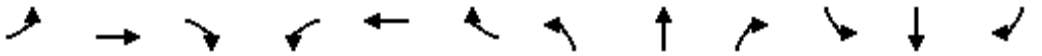
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	28	1026	6	0	954
Future Vol, veh/h	0	28	1026	6	0	954
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	200	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	30	1115	7	0	1037

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	558	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*700	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		1	-	-		-
Mov Cap-1 Maneuver	-	*700	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	700	-
HCM Lane V/C Ratio	-	-	0.043	-
HCM Control Delay (s)	-	-	10.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	3	75	68	0	39	60	944	32	35	913	49
Future Volume (vph)	38	3	75	68	0	39	60	944	32	35	913	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0			7.0		4.0	6.0		4.0	6.0	6.0
Lane Util. Factor	1.00	1.00			1.00		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.86			0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1593			1717		1770	5060		1770	5085	1583
Flt Permitted	0.71	1.00			0.76		0.25	1.00		0.25	1.00	1.00
Satd. Flow (perm)	1322	1593			1340		469	5060		464	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	3	82	74	0	42	65	1026	35	38	992	53
RTOR Reduction (vph)	0	71	0	0	68	0	0	3	0	0	0	21
Lane Group Flow (vph)	41	14	0	0	48	0	65	1058	0	38	992	32
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		3			3		6	1		2	5	
Permitted Phases	3			3			1			5		5
Actuated Green, G (s)	13.0	13.0			13.0		70.0	62.0		66.0	60.0	60.0
Effective Green, g (s)	13.0	13.0			13.0		70.0	62.0		66.0	60.0	60.0
Actuated g/C Ratio	0.13	0.13			0.13		0.71	0.63		0.67	0.61	0.61
Clearance Time (s)	7.0	7.0			7.0		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	1.5	1.5			1.5		1.0	0.2		1.0	0.2	0.2
Lane Grp Cap (vph)	175	211			177		441	3201		392	3113	969
v/s Ratio Prot		0.01					c0.01	c0.21		0.01	0.20	
v/s Ratio Perm	0.03				c0.04		0.09			0.06		0.02
v/c Ratio	0.23	0.07			0.27		0.15	0.33		0.10	0.32	0.03
Uniform Delay, d1	38.0	37.2			38.2		4.3	8.4		5.4	9.2	7.5
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.0			0.3		0.1	0.3		0.0	0.3	0.1
Delay (s)	38.3	37.2			38.6		4.4	8.6		5.4	9.4	7.6
Level of Service	D	D			D		A	A		A	A	A
Approach Delay (s)		37.6			38.6			8.4			9.2	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Phase Number	1	2	3	5	6
Movement	NBTL	SBL	EBWB	SBTL	NBL
Lead/Lag	Lag	Lead		Lag	Lead
Lead-Lag Optimize	Yes	Yes		Yes	Yes
Recall Mode	C-Max	None	None	C-Max	None
Maximum Split (s)	64	14	20	64	14
Maximum Split (%)	65.3%	14.3%	20.4%	65.3%	14.3%
Minimum Split (s)	67	22.5	34	70	24
Yellow Time (s)	4.5	3	3.1	4.5	3
All-Red Time (s)	1.5	1	3.9	1.5	1
Minimum Initial (s)	58	10	13	58	10
Vehicle Extension (s)	0.2	1	1.5	0.2	1
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	20	0	6	0	20
Flash Dont Walk (s)	10	0	20	10	0
Dual Entry	Yes	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes
Start Time (s)	35	21	1	35	21
End Time (s)	1	35	21	1	35
Yield/Force Off (s)	93	31	14	93	31
Yield/Force Off 170(s)	83	31	92	83	31
Local Start Time (s)	0	84	64	0	84
Local Yield (s)	58	94	77	58	94
Local Yield 170(s)	48	94	57	48	94

Intersection Summary	
Cycle Length	98
Control Type	Actuated-Coordinated
Natural Cycle	130
Offset: 35 (36%), Referenced to phase 1:NBTL and 5:SBTL, Start of Green	

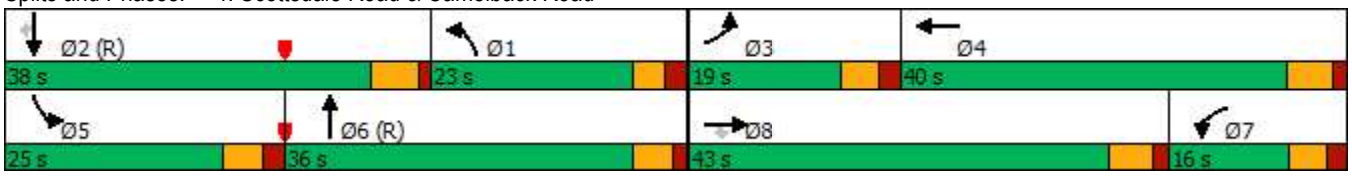
Splits and Phases: 3: Scottsdale Road & Fashion Square

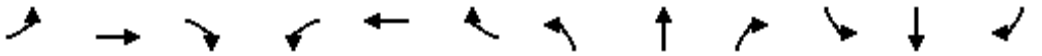
HCM 6th Edition methodology does not support Non-NEMA phasing.

Phase Number	1	2	3	4	5	6	7	8
Movement	NBL	SBT	EBL	WBT	SBL	NBT	WBL	EBT
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	23	38	19	40	25	36	16	43
Maximum Split (%)	19.2%	31.7%	15.8%	33.3%	20.8%	30.0%	13.3%	35.8%
Minimum Split (s)	45	45	42	43.5	45	36	22.5	37.5
Yellow Time (s)	3	4.4	3.3	4	3.6	3.6	3.3	4
All-Red Time (s)	2	1	2	1.5	2	1.4	2	1.5
Minimum Initial (s)	5	10	5	7	5	10	5	7
Vehicle Extension (s)	2	2	2	2	2	2	2	2
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		23		31		24		25
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	53	15	76	95	15	40	119	76
End Time (s)	76	53	95	15	40	76	15	119
Yield/Force Off (s)	71	47.6	89.7	9.5	34.4	71	9.7	113.5
Yield/Force Off 170(s)	71	24.6	89.7	98.5	34.4	47	9.7	88.5
Local Start Time (s)	13	95	36	55	95	0	79	36
Local Yield (s)	31	7.6	49.7	89.5	114.4	31	89.7	73.5
Local Yield 170(s)	31	104.6	49.7	58.5	114.4	7	89.7	48.5

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	180
Offset: 40 (33%), Referenced to phase 2:SBT and 6:NBT, Start of Green	

Splits and Phases: 4: Scottsdale Road & Camelback Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	494	219	81	456	183	260	701	94	311	606	236
Future Volume (veh/h)	208	494	219	81	456	183	260	701	94	311	606	236
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	226	537	238	88	496	199	283	762	102	338	659	257
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	652	291	222	565	225	835	1806	240	399	965	431
Arrive On Green	0.08	0.18	0.18	0.12	0.23	0.23	0.24	0.40	0.40	0.12	0.27	0.27
Sat Flow, veh/h	3456	3554	1585	1781	2480	989	3456	4559	606	3456	3554	1585
Grp Volume(v), veh/h	226	537	238	88	355	340	283	567	297	338	659	257
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1692	1728	1702	1761	1728	1777	1585
Q Serve(g_s), s	7.7	17.4	17.3	5.5	23.1	23.3	8.1	14.5	14.7	11.5	19.9	12.9
Cycle Q Clear(g_c), s	7.7	17.4	17.3	5.5	23.1	23.3	8.1	14.5	14.7	11.5	19.9	12.9
Prop In Lane	1.00		1.00	1.00		0.58	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	284	652	291	222	405	386	835	1349	698	399	965	431
V/C Ratio(X)	0.80	0.82	0.82	0.40	0.88	0.88	0.34	0.42	0.42	0.85	0.68	0.60
Avail Cap(c_a), veh/h	395	1111	495	222	511	487	835	1349	698	559	965	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	54.1	47.1	47.1	48.4	44.7	44.8	37.6	26.3	26.3	52.0	39.1	22.2
Incr Delay (d2), s/veh	5.0	1.0	2.2	0.4	11.4	12.7	0.1	1.0	1.9	6.0	3.8	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	7.7	6.9	2.4	11.3	11.0	3.4	5.9	6.3	5.2	9.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.1	48.1	49.2	48.8	56.1	57.5	37.7	27.2	28.2	58.1	42.8	28.0
LnGrp LOS	E	D	D	D	E	E	D	C	C	E	D	C
Approach Vol, veh/h		1001			783			1147			1254	
Approach Delay, s/veh		50.9			55.9			30.0			43.9	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	34.0	38.0	15.2	32.8	19.5	52.5	20.5	27.5
Change Period (Y+Rc), s	5.0	5.4	* 5.3	5.5	5.6	* 5	5.5	* 5.5
Max Green Setting (Gmax), s	18.0	32.6	* 14	34.5	19.4	* 31	10.7	* 38
Max Q Clear Time (g_c+I1), s	10.1	21.9	9.7	25.3	13.5	16.7	7.5	19.4
Green Ext Time (p_c), s	0.3	2.6	0.2	2.0	0.4	3.1	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

Notes

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

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

Intersection	
Int Delay, s/veh	5.1

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	23	45	0	10	97	0
Future Vol, veh/h	23	45	0	10	97	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	49	0	11	105	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	74	0	61	50
Stage 1	-	-	-	-	50	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1528	-	953	1026
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1528	-	953	1026
Mov Cap-2 Maneuver	-	-	-	-	953	-
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	1012	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	953	-	-	1528	-
HCM Lane V/C Ratio	0.111	-	-	-	-
HCM Control Delay (s)	9.2	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	4	4	0	27	3	0
Future Vol, veh/h	4	4	0	27	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	4	0	29	3	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	8	0	35	6
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	29	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1612	-	978	1077
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	994	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1612	-	978	1077
Mov Cap-2 Maneuver	-	-	-	-	978	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	994	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	978	-	-	1612	-
HCM Lane V/C Ratio	0.003	-	-	-	-
HCM Control Delay (s)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	0	3	21	0	4
Future Vol, veh/h	8	0	3	21	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	0	3	23	0	4

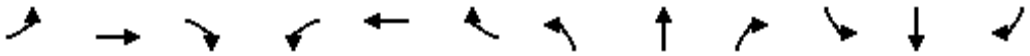
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	19	15	0	0	26	0
Stage 1	15	-	-	-	-	-
Stage 2	4	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	998	1065	-	-	1588	-
Stage 1	1008	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	998	1065	-	-	1588	-
Mov Cap-2 Maneuver	998	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	1019	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	998	1588	-
HCM Lane V/C Ratio	-	-	0.009	-	-
HCM Control Delay (s)	-	-	8.6	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Appendix I – Year 2023 Build Capacity Analysis

Lokahi



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	328	19	21	9	3	23	25	727	41	49	600	41
Future Volume (vph)	328	19	21	9	3	23	25	727	41	49	600	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frt	1.00	0.92		1.00	0.87		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1717		1770	1613		1770	5044		1770	5036	
Flt Permitted	0.74	1.00		0.65	1.00		0.37	1.00		0.31	1.00	
Satd. Flow (perm)	2670	1717		1202	1613		683	5044		578	5036	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	357	21	23	10	3	25	27	790	45	53	652	45
RTOR Reduction (vph)	0	19	0	0	24	0	0	5	0	0	6	0
Lane Group Flow (vph)	357	25	0	10	4	0	27	830	0	53	691	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		7			3			1			1	
Permitted Phases	7			3			1			1		
Actuated Green, G (s)	21.9	21.9		6.2	6.2		73.9	73.9		73.9	73.9	
Effective Green, g (s)	21.9	21.9		6.2	6.2		73.9	73.9		73.9	73.9	
Actuated g/C Ratio	0.18	0.18		0.05	0.05		0.62	0.62		0.62	0.62	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	487	313		62	83		420	3106		355	3101	
v/s Ratio Prot		0.01			0.00			c0.16			0.14	
v/s Ratio Perm	c0.13			c0.01			0.04			0.09		
v/c Ratio	0.73	0.08		0.16	0.05		0.06	0.27		0.15	0.22	
Uniform Delay, d1	46.3	40.7		54.4	54.1		9.2	10.6		9.8	10.3	
Progression Factor	1.00	1.00		1.00	1.00		0.68	0.64		1.00	1.00	
Incremental Delay, d2	5.6	0.1		0.4	0.1		0.3	0.2		0.9	0.2	
Delay (s)	51.9	40.8		54.9	54.2		6.6	7.0		10.6	10.4	
Level of Service	D	D		D	D		A	A		B	B	
Approach Delay (s)		50.7			54.4			7.0			10.4	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Phase Number	1	3	7
Movement	NBSB	WBTL	EBTL
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	None	None
Maximum Split (s)	76	22	22
Maximum Split (%)	63.3%	18.3%	18.3%
Minimum Split (s)	79	31	31
Yellow Time (s)	4.2	2.9	3.4
All-Red Time (s)	1.8	3.1	2.6
Minimum Initial (s)	73	9	20
Vehicle Extension (s)	3	2	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	14	6	6
Flash Dont Walk (s)	16	19	19
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	39	115	17
End Time (s)	115	17	39
Yield/Force Off (s)	109	11	33
Yield/Force Off 170(s)	93	112	14
Local Start Time (s)	0	76	98
Local Yield (s)	70	92	114
Local Yield 170(s)	54	73	95

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	145
Offset: 39 (33%), Referenced to phase 1:NBSB, Start of Green	

Splits and Phases: 1: Scottsdale Road & Highland Avenue

HCM 6th Edition methodology expects standard NEMA quad ring-barrier structure. Does not support multiple barriers.

Intersection	
Int Delay, s/veh	0.5

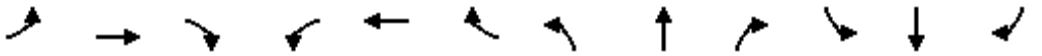
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	67	717	42	0	659
Future Vol, veh/h	0	67	717	42	0	659
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	200	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	73	779	46	0	716

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	390	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*761	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		1	-	-		-
Mov Cap-1 Maneuver	-	*761	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	761	-
HCM Lane V/C Ratio	-	-	0.096	-
HCM Control Delay (s)	-	-	10.2	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.3	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	8	119	0	40	41	694	33	38	591	17
Future Volume (vph)	3	0	8	119	0	40	41	694	33	38	591	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		4.0	6.0		4.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.85		1.00	0.85		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1583		1770	1583		1770	5051		1770	5085	1583
Flt Permitted	0.73	1.00		0.75	1.00		0.36	1.00		0.34	1.00	1.00
Satd. Flow (perm)	1358	1583		1400	1583		678	5051		626	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	0	9	129	0	43	45	754	36	41	642	18
RTOR Reduction (vph)	0	7	0	0	34	0	0	4	0	0	0	8
Lane Group Flow (vph)	3	2	0	129	9	0	45	786	0	41	642	10
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		3			3		6	1		2	5	
Permitted Phases	3			3			1			5		5
Actuated Green, G (s)	26.0	26.0		26.0	26.0		80.2	67.4		73.8	64.2	64.2
Effective Green, g (s)	26.0	26.0		26.0	26.0		80.2	67.4		73.8	64.2	64.2
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.67	0.56		0.61	0.54	0.54
Clearance Time (s)	7.0	7.0		7.0	7.0		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	294	342		303	342		569	2836		476	2720	846
v/s Ratio Prot		0.00			0.01		c0.01	c0.16		0.01	0.13	
v/s Ratio Perm	0.00			c0.09			0.04			0.05		0.01
v/c Ratio	0.01	0.01		0.43	0.03		0.08	0.28		0.09	0.24	0.01
Uniform Delay, d1	36.9	36.9		40.6	37.0		6.9	13.7		9.1	14.8	13.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.35	0.46	1.00
Incremental Delay, d2	0.0	0.0		1.0	0.0		0.1	0.2		0.1	0.2	0.0
Delay (s)	36.9	36.9		41.5	37.1		7.0	13.9		3.3	7.0	13.1
Level of Service	D	D		D	D		A	B		A	A	B
Approach Delay (s)		36.9			40.4			13.5			7.0	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	100.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Phase Number	1	2	3	5	6
Movement	NBTL	SBL	EBWB	SBTL	NBL
Lead/Lag	Lag	Lead		Lag	Lead
Lead-Lag Optimize	Yes	Yes		Yes	Yes
Recall Mode	C-Max	None	None	C-Max	None
Maximum Split (s)	65.5	21.5	33	65.5	21.5
Maximum Split (%)	54.6%	17.9%	27.5%	54.6%	17.9%
Minimum Split (s)	67	22.5	34	67	22.5
Yellow Time (s)	4.5	3	3.1	4.5	3
All-Red Time (s)	1.5	1	3.9	1.5	1
Minimum Initial (s)	61	16	26	61	16
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	20	6	7	7	7
Flash Dont Walk (s)	10	0	20	10	0
Dual Entry	Yes	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes
Start Time (s)	58	36.5	3.5	58	36.5
End Time (s)	3.5	58	36.5	3.5	58
Yield/Force Off (s)	117.5	54	29.5	117.5	54
Yield/Force Off 170(s)	107.5	54	9.5	107.5	54
Local Start Time (s)	0	98.5	65.5	0	98.5
Local Yield (s)	59.5	116	91.5	59.5	116
Local Yield 170(s)	49.5	116	71.5	49.5	116

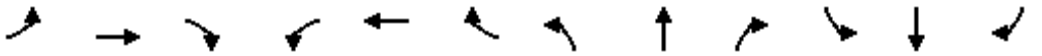
Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	125
Offset: 58 (48%), Referenced to phase 1:NBTL and 5:SBTL, Start of Green	

Splits and Phases: 3: Scottsdale Road & Fashion Square

HCM 6th Edition methodology does not support Non-NEMA phasing.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	3	9	129	43	45	790	41	642	18
v/c Ratio	0.01	0.01	0.43	0.07	0.07	0.27	0.07	0.23	0.02
Control Delay	37.3	0.0	45.7	0.2	6.2	14.3	2.3	7.3	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	0.0	45.7	0.2	6.2	14.3	2.3	7.3	0.6
Queue Length 50th (ft)	2	0	87	0	10	124	2	102	0
Queue Length 95th (ft)	11	0	149	0	22	153	4	126	0
Internal Link Dist (ft)		130		74		600		351	
Turn Bay Length (ft)					160		140		140
Base Capacity (vph)	294	658	303	626	620	2907	589	2754	890
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.43	0.07	0.07	0.27	0.07	0.23	0.02

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	293	92	80	365	146	88	475	51	140	449	115
Future Volume (veh/h)	154	293	92	80	365	146	88	475	51	140	449	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	318	100	87	397	159	96	516	55	152	488	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	638	285	105	443	175	136	2727	287	194	2138	953
Arrive On Green	0.06	0.18	0.18	0.06	0.18	0.18	0.04	0.58	0.58	0.06	0.60	0.60
Sat Flow, veh/h	3456	3554	1585	1781	2487	984	3456	4692	494	3456	3554	1585
Grp Volume(v), veh/h	167	318	100	87	282	274	96	373	198	152	488	125
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1693	1728	1702	1781	1728	1777	1585
Q Serve(g_s), s	8.4	14.2	9.7	8.5	27.3	27.9	4.8	9.1	9.2	7.6	11.2	6.0
Cycle Q Clear(g_c), s	8.4	14.2	9.7	8.5	27.3	27.9	4.8	9.1	9.2	7.6	11.2	6.0
Prop In Lane	1.00		1.00	1.00		0.58	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	210	638	285	105	316	302	136	1979	1036	194	2138	953
V/C Ratio(X)	0.80	0.50	0.35	0.83	0.89	0.91	0.71	0.19	0.19	0.78	0.23	0.13
Avail Cap(c_a), veh/h	721	1161	518	174	384	366	785	1979	1036	774	2138	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	81.6	65.0	63.2	81.9	70.7	70.9	83.5	17.3	17.4	82.0	16.2	15.2
Incr Delay (d2), s/veh	2.6	0.2	0.3	6.1	17.7	21.0	2.5	0.2	0.4	2.5	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	6.5	4.0	4.1	14.0	13.9	2.2	3.6	3.9	3.5	4.6	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.2	65.3	63.5	88.0	88.4	91.9	86.1	17.5	17.8	84.5	16.4	15.4
LnGrp LOS	F	E	E	F	F	F	F	B	B	F	B	B
Approach Vol, veh/h		585			643			667			765	
Approach Delay, s/veh		70.4			89.8			27.5			29.8	
Approach LOS		E			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	111.3	16.0	36.8	15.5	107.7	15.7	37.1
Change Period (Y+Rc), s	5.0	5.4	* 5.3	5.5	5.6	* 5.4	* 5.3	5.5
Max Green Setting (Gmax), s	40.0	40.1	* 37	38.0	39.4	* 41	* 17	57.5
Max Q Clear Time (g_c+I1), s	6.8	13.2	10.4	29.9	9.6	11.2	10.5	16.2
Green Ext Time (p_c), s	0.2	2.2	0.3	1.4	0.3	2.3	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	52.7
HCM 6th LOS	D

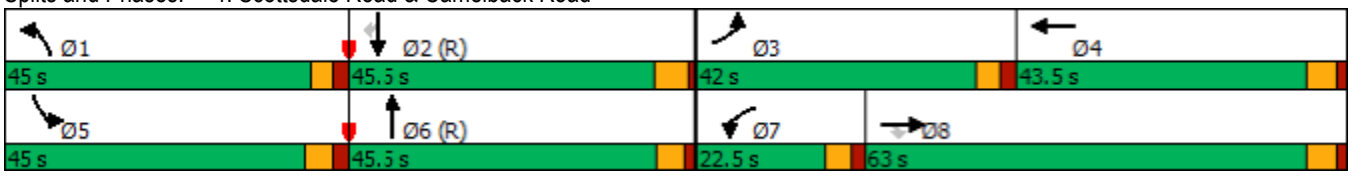
Notes

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

Phase Number	1	2	3	4	5	6	7	8
Movement	NBL	SBT	EBL	WBT	SBL	NBT	WBL	EBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	45	45.5	42	43.5	45	45.5	22.5	63
Maximum Split (%)	25.6%	25.9%	23.9%	24.7%	25.6%	25.9%	12.8%	35.8%
Minimum Split (s)	45	45	42	43.5	45	36	22.5	37.5
Yellow Time (s)	3	4.4	3.3	4	3.6	3.6	3.3	4
All-Red Time (s)	2	1	2	1.5	2	1.4	2	1.5
Minimum Initial (s)	5	10	5	7	5	10	5	7
Vehicle Extension (s)	2	2	2	2	2	2	2	2
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		23		31		24		25
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	54	99	144.5	10.5	54	99	144.5	167
End Time (s)	99	144.5	10.5	54	99	144.5	167	54
Yield/Force Off (s)	94	139.1	5.2	48.5	93.4	139.5	161.7	48.5
Yield/Force Off 170(s)	94	116.1	5.2	17.5	93.4	115.5	161.7	23.5
Local Start Time (s)	131	0	45.5	87.5	131	0	45.5	68
Local Yield (s)	171	40.1	82.2	125.5	170.4	40.5	62.7	125.5
Local Yield 170(s)	171	17.1	82.2	94.5	170.4	16.5	62.7	100.5

Intersection Summary	
Cycle Length	176
Control Type	Actuated-Coordinated
Natural Cycle	180
Offset: 99 (56%), Referenced to phase 2:SBT and 6:NBT, Start of Green	

Splits and Phases: 4: Scottsdale Road & Camelback Road



Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	45	15	3	145	15	4
Future Vol, veh/h	45	15	3	145	15	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	16	3	158	16	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	65	0	221	57
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1547	-	784	1037
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1547	-	782	1037
Mov Cap-2 Maneuver	-	-	-	-	782	-
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	863	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	825	-	-	1547	-
HCM Lane V/C Ratio	0.025	-	-	0.002	-
HCM Control Delay (s)	9.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	11	61	0	15	12	3
Future Vol, veh/h	11	61	0	15	12	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	66	0	16	13	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	78	0	61	45
Stage 1	-	-	-	-	45	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1520	-	945	1025
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1520	-	945	1025
Mov Cap-2 Maneuver	-	-	-	-	945	-
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	1007	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	960	-	-	1520	-
HCM Lane V/C Ratio	0.017	-	-	-	-
HCM Control Delay (s)	8.8	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	0	18	18	0	59
Future Vol, veh/h	16	0	18	18	0	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	0	20	20	0	64

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	94	30	0	0	40	0
Stage 1	30	-	-	-	-	-
Stage 2	64	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	906	1044	-	-	1570	-
Stage 1	993	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	906	1044	-	-	1570	-
Mov Cap-2 Maneuver	906	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	959	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	906	1570	-
HCM Lane V/C Ratio	-	-	0.019	-	-
HCM Control Delay (s)	-	-	9.1	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	7	41	23	18	0	24
Future Vol, veh/h	7	41	23	18	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	45	25	20	0	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	45	0	-	0	96	35
Stage 1	-	-	-	-	35	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1563	-	-	-	903	1038
Stage 1	-	-	-	-	987	-
Stage 2	-	-	-	-	962	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1563	-	-	-	898	1038
Mov Cap-2 Maneuver	-	-	-	-	898	-
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	962	-

Approach	NB	SB	SE
HCM Control Delay, s	1.1	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	1563	-	1038	-	-
HCM Lane V/C Ratio	0.005	-	0.025	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	122	0	0	75	47	12
Future Vol, veh/h	122	0	0	75	47	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	133	0	0	82	51	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	133	0	215	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	82	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1452	-	773	916
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	941	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1452	-	773	916
Mov Cap-2 Maneuver	-	-	-	-	773	-
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	941	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBL	SBT
Capacity (veh/h)	-	-	798	1452	-
HCM Lane V/C Ratio	-	-	0.08	-	-
HCM Control Delay (s)	-	-	9.9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

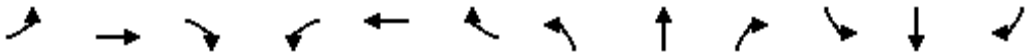
Intersection	
Int Delay, s/veh	5.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	13	29	0	27	40	58
Future Vol, veh/h	13	29	0	27	40	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	32	0	29	43	63

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	46	0	59	30
Stage 1	-	-	-	-	30	-
Stage 2	-	-	-	-	29	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1562	-	948	1044
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	994	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1562	-	948	1044
Mov Cap-2 Maneuver	-	-	-	-	948	-
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	994	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1003	-	-	1562	-
HCM Lane V/C Ratio	0.106	-	-	-	-
HCM Control Delay (s)	9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	572	9	75	30	24	50	49	961	27	29	893	68
Future Volume (vph)	572	9	75	30	24	50	49	961	27	29	893	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frt	1.00	0.87		1.00	0.90		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1614		1770	1674		1770	5065		1770	5031	
Flt Permitted	0.70	1.00		0.37	1.00		0.23	1.00		0.22	1.00	
Satd. Flow (perm)	2548	1614		684	1674		424	5065		407	5031	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	622	10	82	33	26	54	53	1045	29	32	971	74
RTOR Reduction (vph)	0	65	0	0	49	0	0	2	0	0	7	0
Lane Group Flow (vph)	622	27	0	33	31	0	53	1072	0	32	1038	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		7			3			1			1	
Permitted Phases	7			3			1			1		
Actuated Green, G (s)	25.3	25.3		10.9	10.9		65.8	65.8		65.8	65.8	
Effective Green, g (s)	25.3	25.3		10.9	10.9		65.8	65.8		65.8	65.8	
Actuated g/C Ratio	0.21	0.21		0.09	0.09		0.55	0.55		0.55	0.55	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	537	340		62	152		232	2777		223	2758	
v/s Ratio Prot		0.02			0.02			c0.21			0.21	
v/s Ratio Perm	c0.24			c0.05			0.13			0.08		
v/c Ratio	1.16	0.08		0.53	0.20		0.23	0.39		0.14	0.38	
Uniform Delay, d1	47.4	38.0		52.1	50.5		14.0	15.5		13.3	15.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	90.5	0.1		4.3	0.2		2.3	0.4		1.3	0.4	
Delay (s)	137.9	38.1		56.5	50.8		16.3	15.9		14.6	15.8	
Level of Service	F	D		E	D		B	B		B	B	
Approach Delay (s)		125.0			52.4			15.9			15.8	
Approach LOS		F			D			B			B	

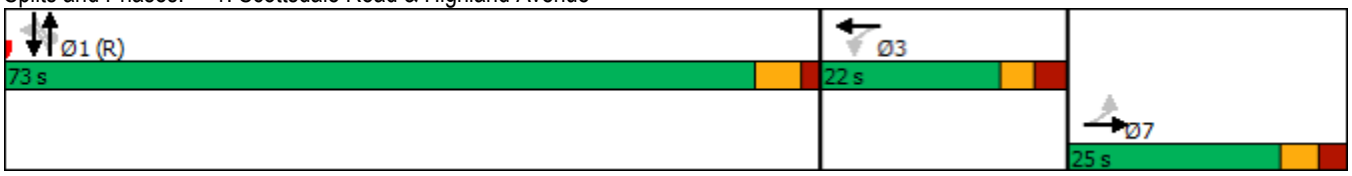
Intersection Summary			
HCM 2000 Control Delay	42.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Phase Number	1	3	7
Movement	NBSB	WBTL	EBTL
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	None	None
Maximum Split (s)	73	22	25
Maximum Split (%)	60.8%	18.3%	20.8%
Minimum Split (s)	79	31	31
Yellow Time (s)	4.2	2.9	3.4
All-Red Time (s)	1.8	3.1	2.6
Minimum Initial (s)	73	9	20
Vehicle Extension (s)	3	2	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	14	6	6
Flash Dont Walk (s)	16	19	19
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	30	103	5
End Time (s)	103	5	30
Yield/Force Off (s)	97	119	24
Yield/Force Off 170(s)	81	100	5
Local Start Time (s)	0	73	95
Local Yield (s)	67	89	114
Local Yield 170(s)	51	70	95

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	145
Offset: 30 (25%), Referenced to phase 1:NBSB, Start of Green	

Splits and Phases: 1: Scottsdale Road & Highland Avenue



HCM 6th Edition methodology expects standard NEMA quad ring-barrier structure. Does not support multiple barriers.

Intersection	
Int Delay, s/veh	0.2

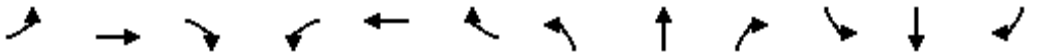
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	44	1032	81	0	1005
Future Vol, veh/h	0	44	1032	81	0	1005
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	200	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	48	1122	88	0	1092

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	561	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*700	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		1	-	-		-
Mov Cap-1 Maneuver	-	*700	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	700	-
HCM Lane V/C Ratio	-	-	0.068	-
HCM Control Delay (s)	-	-	10.5	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.2	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	3	75	103	0	45	60	992	71	86	913	49
Future Volume (vph)	38	3	75	103	0	45	60	992	71	86	913	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		4.0	6.0		4.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.86		1.00	0.85		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1593		1770	1583		1770	5034		1770	5085	1583
Flt Permitted	0.73	1.00		0.70	1.00		0.26	1.00		0.21	1.00	1.00
Satd. Flow (perm)	1351	1593		1307	1583		486	5034		386	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	3	82	112	0	49	65	1078	77	93	992	53
RTOR Reduction (vph)	0	70	0	0	42	0	0	7	0	0	0	21
Lane Group Flow (vph)	41	15	0	112	7	0	65	1148	0	93	992	32
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		3			3		6	1		2	5	
Permitted Phases	3			3			1			5		5
Actuated Green, G (s)	14.4	14.4		14.4	14.4		66.1	58.6		67.1	59.1	59.1
Effective Green, g (s)	14.4	14.4		14.4	14.4		66.1	58.6		67.1	59.1	59.1
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.67	0.60		0.68	0.60	0.60
Clearance Time (s)	7.0	7.0		7.0	7.0		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.0	0.2		1.0	0.2	0.2
Lane Grp Cap (vph)	198	234		192	232		426	3010		377	3066	954
v/s Ratio Prot		0.01			0.00		0.01	c0.23		c0.02	0.20	
v/s Ratio Perm	0.03			c0.09			0.09			0.15		0.02
v/c Ratio	0.21	0.06		0.58	0.03		0.15	0.38		0.25	0.32	0.03
Uniform Delay, d1	36.8	36.0		39.0	35.8		5.5	10.3		5.4	9.6	7.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.0		2.9	0.0		0.1	0.4		0.1	0.3	0.1
Delay (s)	37.0	36.0		41.9	35.8		5.5	10.6		5.5	9.9	7.9
Level of Service	D	D		D	D		A	B		A	A	A
Approach Delay (s)		36.3			40.1			10.4			9.4	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Phase Number	1	2	3	5	6
Movement	NBTL	SBL	EBWB	SBTL	NBL
Lead/Lag	Lag	Lead		Lag	Lead
Lead-Lag Optimize	Yes	Yes		Yes	Yes
Recall Mode	C-Max	None	None	C-Max	None
Maximum Split (s)	58	14	26	61	11
Maximum Split (%)	59.2%	14.3%	26.5%	62.2%	11.2%
Minimum Split (s)	67	22.5	34	70	24
Yellow Time (s)	4.5	3	3.1	4.5	3
All-Red Time (s)	1.5	1	3.9	1.5	1
Minimum Initial (s)	58	10	13	58	10
Vehicle Extension (s)	0.2	1	1.5	0.2	1
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	20	0	6	0	20
Flash Dont Walk (s)	10	0	20	10	0
Dual Entry	Yes	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes
Start Time (s)	35	21	93	32	21
End Time (s)	93	35	21	93	32
Yield/Force Off (s)	87	31	14	87	28
Yield/Force Off 170(s)	77	31	92	77	28
Local Start Time (s)	0	84	58	95	84
Local Yield (s)	52	94	77	52	91
Local Yield 170(s)	42	94	57	42	91

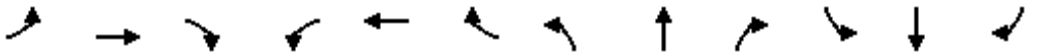
Intersection Summary		
Cycle Length	98	
Control Type	Actuated-Coordinated	
Natural Cycle	130	
Offset: 35 (36%), Referenced to phase 1:NBTL and 5:SBTL, Start of Green		

Splits and Phases: 3: Scottsdale Road & Fashion Square

HCM 6th Edition methodology does not support Non-NEMA phasing.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	41	85	112	49	65	1155	93	992	53
v/c Ratio	0.21	0.28	0.58	0.12	0.14	0.38	0.22	0.32	0.05
Control Delay	38.6	11.3	51.4	0.6	4.6	11.0	5.2	10.3	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	11.3	51.4	0.6	4.6	11.0	5.2	10.3	0.9
Queue Length 50th (ft)	23	2	67	0	9	127	12	106	0
Queue Length 95th (ft)	52	41	118	0	23	180	31	143	6
Internal Link Dist (ft)		130		83		600		351	
Turn Bay Length (ft)					160		140		140
Base Capacity (vph)	261	374	253	462	467	3056	416	3104	1001
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.23	0.44	0.11	0.14	0.38	0.22	0.32	0.05

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	237	494	219	81	456	206	260	736	94	322	618	248
Future Volume (veh/h)	237	494	219	81	456	206	260	736	94	322	618	248
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	258	537	238	88	496	224	283	800	102	350	672	270
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	653	291	242	545	245	796	1754	222	408	965	431
Arrive On Green	0.09	0.18	0.18	0.14	0.23	0.23	0.23	0.38	0.38	0.12	0.27	0.27
Sat Flow, veh/h	3456	3554	1585	1781	2384	1071	3456	4588	581	3456	3554	1585
Grp Volume(v), veh/h	258	537	238	88	369	351	283	592	310	350	672	270
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1678	1728	1702	1766	1728	1777	1585
Q Serve(g_s), s	8.8	17.4	17.3	5.4	24.3	24.5	8.2	15.6	15.8	11.9	20.4	13.5
Cycle Q Clear(g_c), s	8.8	17.4	17.3	5.4	24.3	24.5	8.2	15.6	15.8	11.9	20.4	13.5
Prop In Lane	1.00		1.00	1.00		0.64	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	320	653	291	242	406	384	796	1301	675	408	965	431
V/C Ratio(X)	0.81	0.82	0.82	0.36	0.91	0.91	0.36	0.46	0.46	0.86	0.70	0.63
Avail Cap(c_a), veh/h	567	1140	509	242	437	412	796	1301	675	501	965	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	53.4	47.1	47.0	47.1	45.0	45.1	38.7	27.7	27.8	51.9	39.3	21.6
Incr Delay (d2), s/veh	1.8	1.0	2.2	0.3	20.8	22.8	0.1	1.2	2.2	9.7	3.9	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	7.7	6.9	2.4	12.9	12.5	3.5	6.4	6.9	5.6	9.2	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.2	48.1	49.2	47.5	65.9	68.0	38.8	28.9	30.0	61.6	43.2	28.0
LnGrp LOS	E	D	D	D	E	E	D	C	C	E	D	C
Approach Vol, veh/h		1033			808			1185			1292	
Approach Delay, s/veh		50.1			64.8			31.5			45.0	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.6	38.0	16.4	32.9	19.8	50.9	21.8	27.6
Change Period (Y+Rc), s	5.0	5.4	* 5.3	5.5	5.6	* 5	5.5	* 5.5
Max Green Setting (Gmax), s	17.0	32.6	* 20	29.5	17.4	* 32	10.7	* 39
Max Q Clear Time (g_c+I1), s	10.2	22.4	10.8	26.5	13.9	17.8	7.4	19.4
Green Ext Time (p_c), s	0.3	2.6	0.3	1.0	0.3	3.3	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	46.2
HCM 6th LOS	D

Notes

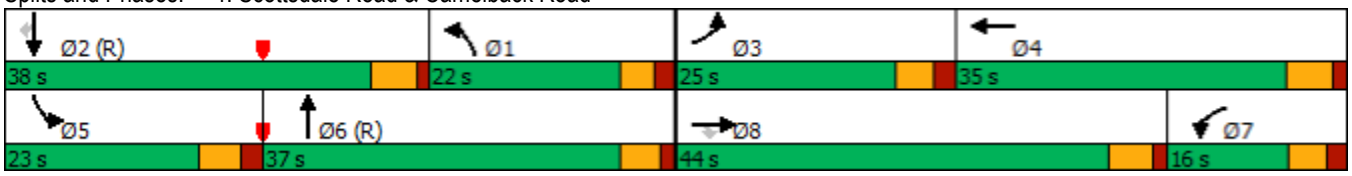
User approved pedestrian interval to be less than phase max green.

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

Phase Number	1	2	3	4	5	6	7	8
Movement	NBL	SBT	EBL	WBT	SBL	NBT	WBL	EBT
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	22	38	25	35	23	37	16	44
Maximum Split (%)	18.3%	31.7%	20.8%	29.2%	19.2%	30.8%	13.3%	36.7%
Minimum Split (s)	45	45	42	43.5	45	36	22.5	37.5
Yellow Time (s)	3	4.4	3.3	4	3.6	3.6	3.3	4
All-Red Time (s)	2	1	2	1.5	2	1.4	2	1.5
Minimum Initial (s)	5	10	5	7	5	10	5	7
Vehicle Extension (s)	2	2	2	2	2	2	2	2
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		23		31		24		25
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	55	17	77	102	17	40	1	77
End Time (s)	77	55	102	17	40	77	17	1
Yield/Force Off (s)	72	49.6	96.7	11.5	34.4	72	11.7	115.5
Yield/Force Off 170(s)	72	26.6	96.7	100.5	34.4	48	11.7	90.5
Local Start Time (s)	15	97	37	62	97	0	81	37
Local Yield (s)	32	9.6	56.7	91.5	114.4	32	91.7	75.5
Local Yield 170(s)	32	106.6	56.7	60.5	114.4	8	91.7	50.5

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	180
Offset: 40 (33%), Referenced to phase 2:SBT and 6:NBT, Start of Green	

Splits and Phases: 4: Scottsdale Road & Camelback Road



Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	60	45	0	51	97	0
Future Vol, veh/h	60	45	0	51	97	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	49	0	55	105	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	114	0	145	90
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	55	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1485	-	874	1000
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	968	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1485	-	874	1000
Mov Cap-2 Maneuver	-	-	-	-	874	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	874	-	-	1485	-
HCM Lane V/C Ratio	0.121	-	-	-	-
HCM Control Delay (s)	9.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	4	23	0	27	7	0
Future Vol, veh/h	4	23	0	27	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	25	0	29	8	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	29	0	46	17
Stage 1	-	-	-	-	17	-
Stage 2	-	-	-	-	29	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1584	-	964	1062
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	994	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1584	-	964	1062
Mov Cap-2 Maneuver	-	-	-	-	964	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	994	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	964	-	-	1584	-
HCM Lane V/C Ratio	0.008	-	-	-	-
HCM Control Delay (s)	8.8	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	0	7	21	0	23
Future Vol, veh/h	8	0	7	21	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	0	8	23	0	25

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	45	20	0	0	31	0
Stage 1	20	-	-	-	-	-
Stage 2	25	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	965	1058	-	-	1582	-
Stage 1	1003	-	-	-	-	-
Stage 2	998	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	965	1058	-	-	1582	-
Mov Cap-2 Maneuver	965	-	-	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	998	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	965	1582	-
HCM Lane V/C Ratio	-	-	0.009	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	56	122	0	8	0
Future Vol, veh/h	18	56	122	0	8	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	61	133	0	9	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	133	0	-	0	234	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1452	-	-	-	754	916
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1452	-	-	-	743	916
Mov Cap-2 Maneuver	-	-	-	-	743	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1452	-	-	-	743
HCM Lane V/C Ratio	0.013	-	-	-	0.012
HCM Control Delay (s)	7.5	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	10	7	0
Future Vol, veh/h	0	0	0	10	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	8	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	11	0	-	0	6	6
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1608	-	-	-	1015	1077
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1608	-	-	-	1015	1077
Mov Cap-2 Maneuver	-	-	-	-	1015	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1608	-	-	-	1015
HCM Lane V/C Ratio	-	-	-	-	0.007
HCM Control Delay (s)	0	-	-	-	8.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

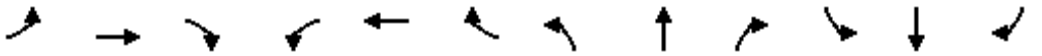
Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	7	74	0	32	12	18
Future Vol, veh/h	7	74	0	32	12	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	80	0	35	13	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	88	0	83	48
Stage 1	-	-	-	-	48	-
Stage 2	-	-	-	-	35	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1508	-	919	1021
Stage 1	-	-	-	-	974	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1508	-	919	1021
Mov Cap-2 Maneuver	-	-	-	-	919	-
Stage 1	-	-	-	-	974	-
Stage 2	-	-	-	-	987	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	978	-	-	1508	-
HCM Lane V/C Ratio	0.033	-	-	-	-
HCM Control Delay (s)	8.8	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	8	119	0	40	41	694	33	38	591	17
Future Volume (veh/h)	3	0	8	119	0	40	41	694	33	38	591	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	0	9	129	0	43	45	754	36	41	642	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	0	159	407	0	176	378	1283	61	539	1874	582
Arrive On Green	0.08	0.00	0.10	0.09	0.00	0.11	0.08	0.26	0.26	0.07	0.12	0.12
Sat Flow, veh/h	1781	0	1585	1781	0	1585	1781	4994	238	1781	5106	1585
Grp Volume(v), veh/h	3	0	9	129	0	43	45	513	277	41	642	18
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1781	1702	1828	1781	1702	1585
Q Serve(g_s), s	0.1	0.0	0.3	3.8	0.0	1.5	0.0	7.9	8.0	0.0	6.9	0.4
Cycle Q Clear(g_c), s	0.1	0.0	0.3	3.8	0.0	1.5	0.0	7.9	8.0	0.0	6.9	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	372	0	159	407	0	176	378	875	470	539	1874	582
V/C Ratio(X)	0.01	0.00	0.06	0.32	0.00	0.24	0.12	0.59	0.59	0.08	0.34	0.03
Avail Cap(c_a), veh/h	386	0	188	453	0	232	390	875	470	539	1874	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	0.0	24.4	21.4	0.0	24.4	19.1	19.5	19.5	18.9	19.7	6.1
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.2	0.0	0.3	0.0	2.8	5.1	0.0	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	1.5	0.0	0.5	0.5	3.1	3.6	0.4	2.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	0.0	24.5	21.6	0.0	24.6	19.2	22.3	24.7	18.9	20.2	6.2
LnGrp LOS	C	A	C	C	A	C	B	C	C	B	C	A
Approach Vol, veh/h		12			172			835			701	
Approach Delay, s/veh		23.5			22.3			22.9			19.8	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	27.4	9.8	12.2	17.6	20.4	10.4	11.5
Change Period (Y+Rc), s	5.6	* 5.4	* 5.3	5.5	* 5.6	5.0	* 5.3	5.5
Max Green Setting (Gmax), s	5.4	* 20	* 5	8.8	* 12	13.0	* 6.7	7.1
Max Q Clear Time (g_c+I1), s	2.0	8.9	2.1	3.5	2.0	10.0	5.8	2.3
Green Ext Time (p_c), s	0.0	2.2	0.0	0.0	0.0	1.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

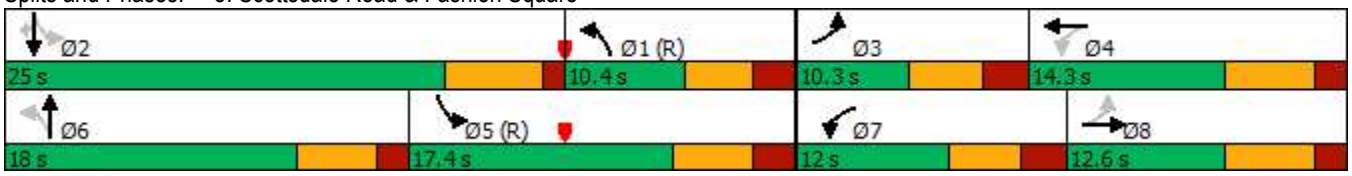
Notes

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

Phase Number	1	2	3	4	5	6	7	8
Movement	NBL	SBTL	EBL	WBTL	SBL	NBTL	WBL	EBTL
Lead/Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	C-Max	Max	None	None	C-Max	Max	None	None
Maximum Split (s)	10.4	25	10.3	14.3	17.4	18	12	12.6
Maximum Split (%)	17.3%	41.7%	17.2%	23.8%	29.0%	30.0%	20.0%	21.0%
Minimum Split (s)	10	15.4	10.3	12.5	17	15	10.3	12.5
Yellow Time (s)	3	4.4	3.3	4	3.6	3.6	3.3	4
All-Red Time (s)	2	1	2	1.5	2	1.4	2	1.5
Minimum Initial (s)	5	10	5	7	5	10	5	7
Vehicle Extension (s)	2	2	2	2	2	2	2	2
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	35	10.4	20.7	53	35	10.4	22.4
End Time (s)	10.4	0	20.7	35	10.4	53	22.4	35
Yield/Force Off (s)	5.4	54.6	15.4	29.5	4.8	48	17.1	29.5
Yield/Force Off 170(s)	5.4	54.6	15.4	29.5	4.8	48	17.1	29.5
Local Start Time (s)	0	35	10.4	20.7	53	35	10.4	22.4
Local Yield (s)	5.4	54.6	15.4	29.5	4.8	48	17.1	29.5
Local Yield 170(s)	5.4	54.6	15.4	29.5	4.8	48	17.1	29.5

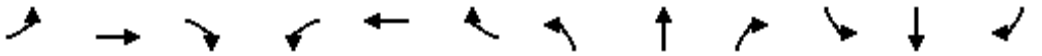
Intersection Summary	
Cycle Length	60
Control Type	Actuated-Coordinated
Natural Cycle	55
Offset: 0 (0%), Referenced to phase 1:NBL and 5:SBL, Start of Green	

Splits and Phases: 3: Scottsdale Road & Fashion Square



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	3	9	129	43	45	790	41	642	18
v/c Ratio	0.02	0.02	0.56	0.07	0.10	0.37	0.06	0.24	0.02
Control Delay	19.0	0.1	31.1	0.2	7.0	14.4	3.3	11.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	0.1	31.1	0.2	7.0	14.4	3.3	11.3	0.1
Queue Length 50th (ft)	1	0	45	0	4	67	3	76	0
Queue Length 95th (ft)	6	0	69	0	20	133	15	137	1
Internal Link Dist (ft)		130		74		600		351	
Turn Bay Length (ft)					160		140		140
Base Capacity (vph)	192	510	242	668	469	2127	650	2694	953
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.02	0.53	0.06	0.10	0.37	0.06	0.24	0.02

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	3	75	103	0	45	60	992	71	86	913	49
Future Volume (veh/h)	38	3	75	103	0	45	60	992	71	86	913	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	3	82	112	0	49	65	1078	77	93	992	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	383	7	188	348	0	182	345	1582	113	427	1822	566
Arrive On Green	0.08	0.12	0.12	0.07	0.00	0.11	0.17	0.65	0.65	0.04	0.12	0.12
Sat Flow, veh/h	1781	56	1537	1781	0	1585	1781	4865	347	1781	5106	1585
Grp Volume(v), veh/h	41	0	85	112	0	49	65	754	401	93	992	53
Grp Sat Flow(s),veh/h/ln	1781	0	1594	1781	0	1585	1781	1702	1808	1781	1702	1585
Q Serve(g_s), s	1.1	0.0	3.0	3.3	0.0	1.7	0.0	8.3	8.4	0.0	11.0	1.1
Cycle Q Clear(g_c), s	1.1	0.0	3.0	3.3	0.0	1.7	0.0	8.3	8.4	0.0	11.0	1.1
Prop In Lane	1.00		0.96	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	383	0	195	348	0	182	345	1107	588	427	1822	566
V/C Ratio(X)	0.11	0.00	0.44	0.32	0.00	0.27	0.19	0.68	0.68	0.22	0.54	0.09
Avail Cap(c_a), veh/h	386	0	195	402	0	222	360	1107	588	427	1822	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.81	0.81	0.81	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	24.4	21.1	0.0	24.3	18.4	8.5	8.5	19.9	21.9	6.3
Incr Delay (d2), s/veh	0.0	0.0	0.6	0.2	0.0	0.3	0.1	2.8	5.1	0.1	1.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.1	1.3	0.0	0.6	0.6	2.2	2.7	1.1	4.8	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.9	0.0	25.0	21.3	0.0	24.6	18.5	11.3	13.7	20.0	23.0	6.6
LnGrp LOS	B	A	C	C	A	C	B	B	B	B	C	A
Approach Vol, veh/h		126			161			1220			1138	
Approach Delay, s/veh		23.3			22.3			12.5			22.0	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	26.8	10.2	12.4	12.9	24.5	9.8	12.8
Change Period (Y+Rc), s	5.6	* 5.4	* 5.3	5.5	* 5.6	5.0	* 5.3	5.5
Max Green Setting (Gmax), s	5.5	* 20	* 5	8.4	* 7.2	18.0	* 6.3	7.1
Max Q Clear Time (g_c+I1), s	2.0	13.0	3.1	3.7	2.0	10.4	5.3	5.0
Green Ext Time (p_c), s	0.0	2.7	0.0	0.0	0.0	3.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

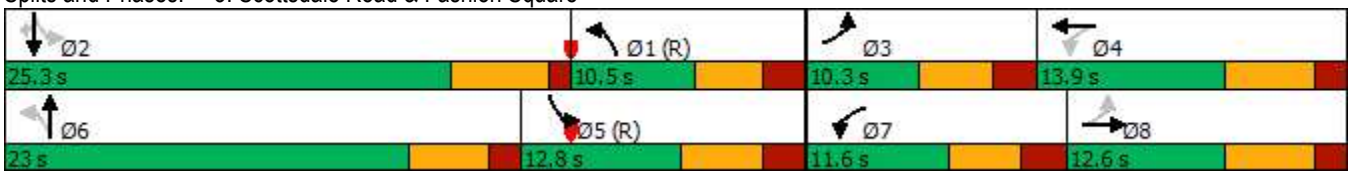
Notes

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

Phase Number	1	2	3	4	5	6	7	8
Movement	NBL	SBTL	EBL	WBTL	SBL	NBTL	WBL	EBTL
Lead/Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	C-Max	Max	None	None	C-Max	Max	None	None
Maximum Split (s)	10.5	25.3	10.3	13.9	12.8	23	11.6	12.6
Maximum Split (%)	17.5%	42.2%	17.2%	23.2%	21.3%	38.3%	19.3%	21.0%
Minimum Split (s)	10	15.4	10.3	12.5	10.6	15	10.3	12.5
Yellow Time (s)	3	4.4	3.3	4	3.6	3.6	3.3	4
All-Red Time (s)	2	1	2	1.5	2	1.4	2	1.5
Minimum Initial (s)	5	10	5	7	5	10	5	7
Vehicle Extension (s)	2	2	2	2	2	2	2	2
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	34.7	10.5	20.8	57.7	34.7	10.5	22.1
End Time (s)	10.5	0	20.8	34.7	10.5	57.7	22.1	34.7
Yield/Force Off (s)	5.5	54.6	15.5	29.2	4.9	52.7	16.8	29.2
Yield/Force Off 170(s)	5.5	54.6	15.5	29.2	4.9	52.7	16.8	29.2
Local Start Time (s)	0	34.7	10.5	20.8	57.7	34.7	10.5	22.1
Local Yield (s)	5.5	54.6	15.5	29.2	4.9	52.7	16.8	29.2
Local Yield 170(s)	5.5	54.6	15.5	29.2	4.9	52.7	16.8	29.2

Intersection Summary	
Cycle Length	60
Control Type	Actuated-Coordinated
Natural Cycle	55
Offset: 0 (0%), Referenced to phase 1:NBL and 5:SBL, Start of Green	

Splits and Phases: 3: Scottsdale Road & Fashion Square



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	41	85	112	49	65	1155	93	992	53
v/c Ratio	0.15	0.33	0.36	0.08	0.20	0.60	0.27	0.47	0.07
Control Delay	16.2	11.2	19.0	0.3	10.5	26.6	9.3	11.1	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.2	11.2	19.0	0.3	10.5	26.6	9.3	11.1	0.2
Queue Length 50th (ft)	10	1	29	0	6	201	16	104	0
Queue Length 95th (ft)	29	35	62	0	m33	326	27	158	0
Internal Link Dist (ft)		130		83		600		351	
Turn Bay Length (ft)					160		140		140
Base Capacity (vph)	277	260	318	599	328	1932	344	2102	797
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.33	0.35	0.08	0.20	0.60	0.27	0.47	0.07

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.