TRAFFIC IMPACT ANALYSIS

Painted Hills PRD

Spokane Valley, Washington

September 14, 2016

2013-1166

Prepared by:

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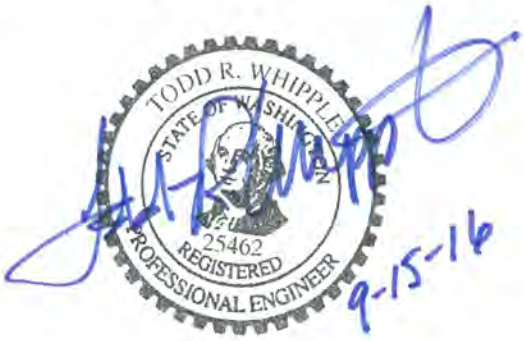
This report has been prepared by the staff of Whipple Consulting Engineers, Inc. under the direction of the undersigned professional engineer whose seal and signature appears hereon.



Todd R. Whipple, P.E.

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EXECUTIVE SUMMARY

This Traffic Impact analysis has been prepared to supplement the SEPA process for the proposed Painted Hills planned residential development (PRD) the following traffic impact analysis has been completed and includes the following land uses: 52 Cottage Style Single Family Lots, 206 Single Family Residential Lots, 42 Estate Type Single Family Lots, 228 Apartment Units, a commercial development and a mixed use commercial/residential development.

1. The City of Spokane Valley and the Washington State Department of Transportation (WSDOT) have established Level of Service (LOS) D as the minimum acceptable level of service at signalized intersections and level of service E at unsignalized intersections within the study area.

2. The project proposes to develop 99.7 acres +/- into the following: 52 Cottage Style Single Family Lots, 206 Single Family Residential Lots, 42 Estate Type Single Family Lots, 228 Apartment Units, and a commercial development complex, the north development is anticipated to include a total of 13,400 SF of commercial buildings with 52 apartment units located above the retail space in the mixed use. The South development is anticipated to include 9,000 sf of retail space and a 4,000 sf quality restaurant.

3. The development timeline is anticipated to be as follows: Years 2015 and 2016 PRD approval, Year 2017 the PRD development is anticipated to be a continuous build over a seven to eight-year span of time with complete buildout by the year 2025. Please see Figure 2A for an anticipated order of construction.

4. The PRD is anticipated to have 3 public Accesses (1 on Dishman-Mica Road, and 2 on Madison Road), 2 private roadway accesses on Madison Road, 2 commercial driveways (1 Thorpe Road, 1 Dishman-Mica Road), and 1 apartment driveway on Dishman-Mica Road. The PRD is anticipated to have a total of 8 points of access on and off the existing transportation system.

5. The project site lies within the SE ¼ of Section 33, T25N R44E W.M., within the City of Spokane Valley, Washington. And is located north of Thorpe Road, east of Dishman-Mica Road, and west of Madison Road. A vicinity map is included as Figure 1.

6. The project site is currently listed on the comprehensive plan and zoned Residential 3. The parcels to be developed by the project are 45336.9191, 44041.9144, 45334.9135, 45334.0110, 45334.0109, 45334.0108, 45334.0114, 45334.0113, and 45334.0106. Please see Figure 2, Site Plan.

7. The project study area intersections were identified through a neighborhood traffic scoping meeting and discussions with the City of Spokane Valley, the Washington State Department of Transportation (WSDOT), and Spokane County. The study encompasses twelve existing intersections and eight proposed intersections.

    - 32nd Ave & University Rd (AM & PM)
    - Dishman-Mica Rd & University/Schafer Rd (AM & PM)

- 32nd Ave & Bowdish Rd (AM & PM)
- Dishman-Mica Rd & Bowdish Rd (AM & PM)
- Dishman-Mica Rd & Apt. Access (AM & PM) (Proposed)
- Dishman-Mica Rd & Sundown Dr. (AM & PM) (Proposed)
- Dishman-Mica Rd & S. Comm. Access (AM & PM) (Proposed)
- Dishman-Mica Rd & Thorpe Rd (AM & PM)
- Thorpe Rd & Comm. Access (AM & PM) (Proposed)
- 16th Ave & Pines Rd (AM & PM)
- 16th Ave & SR 27 (AM & PM)
- 32nd Ave & Pines Rd (AM & PM)
- Madison Rd & Painted Hills Ave (AM & PM) (Proposed)
- Madison Rd & 41st Ave (AM & PM) (Proposed)
- Madison Rd & 43rd Ave (AM & PM) (Proposed)
- Madison Rd & 44th Ave (AM & PM) (Proposed)
- Madison Rd & Thorpe Rd (AM & PM)
- 32nd Ave & SR 27 (AM & PM)
- 32nd Ave & Evergreen Rd (AM & PM)
- 32nd Ave & Sullivan Rd (AM & PM)

8. This traffic impact analysis follows the City of Spokane Valley Standard for Traffic impact analysis which utilizes level of service analysis for the year 2015 (existing) to establish a baseline of performance and identify any existing concerns in the exiting transportation system. Buildout year scenarios (2025) both with and without the project to determine traffic concurrency or to determine if the added trips of the project on the transportation system would reduce the scoped intersections level of service below the standard.

9. Per the City of Spokane Valley Street Standards 3.3.4.6 the buildout year +5 analysis scenario was included as the project is expected to take more than 6 years to complete. The buildout year plus 5 years (2030) both with and without the project will ensure that any proposed mitigation would maintain level of service after buildout.

10. Per the City of Spokane Valley Street Standards 3.3.4.6 the buildout year +20 analysis scenario of the mitigated intersection was not included as the proposed year 2025 mitigation at an unsignalized intersection (16th Avenue & Pines Road) does not involve the installation or modification to an intersection controlled with a traffic signal or roundabout.

11. An Additional analysis of Peak Hours and cut-through traffic per public comment were included in the public involvement section to respond to a concern that the Midilome East residents had. This additional analysis is not a part of traffic concurrency but is a service provided to the public for their information.

12. Conclusion

Based upon the analysis, field observations, assumptions, methodologies and results which are provided in the body of this report, it is concluded that the development of the proposed project

will generate new trips on the existing transportation system and that those trips while affecting level of service will generally not degrade LOS below concurrency levels, except at the intersection of 16th Avenue & Pines Road. Additionally, any queue deficiencies that have been identified will carry through the scenarios from the existing condition to the future conditions. It is important to remember that the proposed project only adds to an already existing condition. These conclusions were reached and have been documented within the body of this report.

Existing Condition

- There are no Level of Service deficiencies identified for level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan.
- There are four existing queue deficiencies identified at two of the scoped intersections that have acceptable levels of service. The deficiency occurs when the anticipated queue exceeds the available storage space. A review of the City of Spokane Valley Transportation improvement projects (TIP), shows that there are no public improvement projects identified to mitigate the discrepancies at the following intersections and movements:
    - 16th Avenue & State Route 27, EB Thru, WB Thru
    - 32nd Avenue & State Route 27, WB left, WB Thru

Year 2025, Buildout, without the project, with background projects

- There is a Level of Service deficiency identified at the intersection of 16th Avenue & Pines Road, as the southbound approach experienced 64 seconds of average delay, for level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan. The intersection can be returned to an acceptable level of service by signalizing the intersection and pairing the signal timing with the signal at 16th Avenue & State Route 27.
- There are five future queue deficiencies identified at three intersections. These deficiencies were identified as the result of the background growth rate and the background projects as identified at scoping. A review of the City of Spokane Valley Transportation improvement projects (TIP), shows that there are no public improvement projects identified to mitigate the discrepancies at the following intersections and movements:
    - 16th Avenue & State Route 27, EB Thru, WB Thru
    - 32nd Avenue & Pines Road, EB Thru
    - 32nd Avenue & State Route 27, WB Thru, WB Left Turn

Year 2025, Buildout, with the project, with background projects

- **Left Turn Lane Analysis, At Project Accesses on; Dishman Mica Road, Thorpe Road, and Madison Road**
    - The intersection of Dishman-Mica Road & Sundown Drive warrants a southbound left turn lane

- The proposed intersections along Madison Road do not warrant left turn lanes, however the City of Spokane valley has designated Madison Road as a collector roadway, which has a 3-lane typical format.
- After discussions with the developer a portion of Dishman-Mica Road and Madison along the project frontage are proposed to include a TWLTL for the project accesses.

- **Left and Right Turn Warrant analysis at Study Area Intersections**

  - The Intersection of 16th Avenue & Pines Road northbound right turn movement meets the right turn lane, 100 vehicles in the PM Peak hour, rule of thumb in the Year 2025 With the project, however because of the close proximity of intersections, the signal controls, and the operation of the northbound approach as a left right. So the addition of a right turn lane would still operate as before, rendering any improvement as moot.

  - The intersection of 32nd Avenue & Pines Road northbound right turn movement meets the rule of thumb and the project anticipates adding trips to the movement. Therefore, a northbound right turn lane will be considered.

- There is a Level of Service deficiency identified at the intersection of 16th Avenue & Pines Road, as the southbound approach has 96.2 seconds of average delay, for level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan.
- The Level of Service deficiency identified at the intersection of 16th Avenue & Pines Road, originally caused by the background trips and worsened by this project, can be mitigated and brought back to an acceptable level of service by signalizing the intersection and pairing the signal timing with the signal at the intersection of 16th Avenue & State Route 27
- There are five future queue deficiencies at three intersections with two of those intersections operating at acceptable levels of service. These deficiencies were the result of the background growth rate and the background projects as identified within this study and are only incrementally worsened or kept the same by this project. A review of the City of Spokane Valley Transportation improvement projects (TIP), shows that there are no public improvement projects identified to mitigate the discrepancies at the following intersections and movements:
  - 16th Avenue & State Route 27, EB Thru, WB Thru
  - 32nd Avenue & Pines Road, EB Thru
  - 32nd Avenue & State Route 27, WB Thru, WB Left Turn

Year 2030, Buildout Plus 5 Years, without project, with background projects

- There is a Level of Service deficiency identified at the intersection of 16th Avenue & Pines Road, as the southbound approach has 95.0 seconds of average delay, for level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan.

- There are five queue deficiencies identified at three intersections. These deficiencies were identified as the result of the background growth rate and the background projects as identified at scoping. A review of the City of Spokane Valley Transportation improvement projects (TIP), shows that there are no public improvement projects identified to mitigate the discrepancies at the following intersections and movements:
    - 16th Avenue & State Route 27, EB Thru, WB Thru
    - 32nd Avenue & Pines Road, EB Thru
    - 32nd Avenue & State Route 27, WB Thru, WB Left Turn

Year 2030, Buildout Plus 5 Years, with project, with background projects

- There is a Level of Service deficiency identified at the intersection of 16th Avenue & Pines Road, as the southbound approach has 133.7 seconds of average delay, for level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan.
- The Level of Service deficiency identified at the intersection of 16th Avenue & Pines Road, originally caused by the background trips and worsened by this project, can be brought back to an acceptable level of service signalizing the intersection and pairing the signal timing with the signal at the intersection of 16th Avenue & State Route 27
- There are five future queue deficiencies at three intersections with two of those intersections operating at acceptable levels of service. These deficiencies were the result of the background growth rate and the background projects as identified within this study and are only incrementally worsened or kept the same by this project. A review of the City of Spokane Valley Transportation improvement projects (TIP), shows that there are no public improvement projects identified to mitigate the discrepancies at the following intersections and movements:
    - 16th Avenue & State Route 27, EB Thru, WB Thru
    - 32nd Avenue & Pines Road, EB Thru
    - 32nd Avenue & State Route 27, WB Thru, WB Left Turn

Recommendations

Based upon the conclusions within this study the proposed project is recommended to provide the following;

- frontage improvements to Dishman-Mica Road, Thorpe Road, and Madison Road per the City of Spokane Valley development process
- A two-way-left-turn-lane north of the Chester Creek Bridge to the property boundary with appropriate taper.
- Bicycle and pedestrian facilities per the City of Spokane Valley Bicycle and Pedestrian Master Plan along the site frontage.
- a northbound right turn lane be considered at the intersection of 32nd Avenue & Pines Road. Coordination with the City of Spokane Valley and the Central Valley School District will be required.
- We also recommend that when warranted by the development conditions that the project contribute its participating percentage in a project to signalize the intersection of 16th Avenue & Pines Road.

INTRODUCTION

Introduction, Purpose of Report and Study Area

This traffic impact analysis is required by the City of Spokane Valley as part of the traffic concurrency and SEPA process for the proposed Painted Hills planned residential development (PRD). The proposed development includes 52 Cottage Style Single Family Lots, 206 Single Family Residential Lots, 42 Estate Type Single Family Lots, 228 Apartment Units, and a commercial development and a mixed use commercial/residential development (4.26 ± ac), with a total of 99.7 acres +/-. Please see Figure 1-Vicinity Map and Figure 2-Preliminary Site Plan.

The purpose of this analysis is to review, assess, and identify the potential traffic related impacts that the proposed project may have on the transportation network and where possible minimize any impact. This TIA will be completed in accordance with the current traffic guidelines from the City of Spokane Valley, Washington State Department of Transportation (WSDOT), Spokane County, and the Institute of Transportation Engineers (A Recommended Practice – Traffic Access and Impact Studies for Site Development, 2010).

Site Location and Development Description

The proposed development is located on approximately 99.7 acres +/-. The site was previously a privately held golf course open to the public. The site is proposed to be separated into six (6) different land uses within the PRD. A description of each proposed land use is provided below.

Cottages Style Single Family (Townhouses)
The 52 "Cottage Style Single Family Lots" are intended to be a combination of cottage style homes and common wall buildings or townhouses within a gated community, which is located at the north end of the project site. The lots are accessed by a single gated access from Madison Road to the east that runs east/west, and also a gated emergency fire access road at the west end that leads into the Single Family Residential development.

Single Family Residential
The 206 Single Family Residential lot development lies in the middle of the site, and also makes up a majority of the site in land area, besides the open space. It has three main accesses: two from Madison Road to the east and one from Dishman-Mica Road to the west. The development has two north/south internal roads, as well as 5 east/west internal roads each with a traffic circle in the middle to provide traffic calming throughout the development.

Estate Type Single Family (Large Lot Single Family Residential)
The 42 Estate Type Single Family lots are large, single family residential lots located at the south end of the project site. There is a single gated access road from Madison Road to the east that runs east/west. The Estate Type Single Family also has an internal loop road that makes a rectangular loop off the proposed main road. There is also a gated emergency fire access road at the northwest corner that runs north into the southern traffic circle of the Single Family Residential development.

Multi-Family Residential
The 228-unit apartment complex is located at the northwest end of the project site. There may be two accesses for this development: one to/from Dishman-Mica Road to the west, via a new alignment out to Wilbur Road, and one to/from an internal project road located to the south. As apartment complexes differ in design, the internal circulation, building locations, and parking will be provided under a separate submittal.

Commercial
The 4.26 acre (26.4 KSF) commercial development is located along Dishman-Mica Road and at the southwest end of the project site. The area is divided by Chester Creek into northern and southern areas. The northern area is proposed to include 13.4 ksf of retail space with an access driveway on Dishman Mica Road and an Access to Sundown Drive. The southern commercial development is anticipated to contain 9.0 ksf of retail development and a 4.0 ksf Restaurant, with access to Thorpe Road

Apartments (Mixed Use)
The 52 apartment units are proposed to be located over the retail space of the commercial development. There may be a single access from Dishman-Mica Road or an internal access to the proposed road as the apartments will use the commercial development access.

Development Open Spaces
The proposed development is anticipated to have approximately 30 acres in open space spread incorporates flood control facilities. The 10-acre open space of the development will not only include the park setting at the south but also a trail system that weaves through every corner of the development.

Project Access to Existing Transportation System
The PRD is anticipated to have 3 public Accesses (1 on Dishman-Mica Road, 2 on Madison Road), 2 private roadway accesses on Madison Road, 3 commercial driveways (1 Thorpe Road, 2 Dishman-Mica Road) , and 1 apartment driveway on Dishman-Mica Road. The PRD is anticipated to have a total of 9 points of access on and off the existing transportation system.

PRD Development Timeline
The development timeline is anticipated to be as follows: Years 2015 and 2016 PRD approval, Year 2017 the PRD development is anticipated to be a continuous build over a seven to eight-year span of time with complete buildout by the year 2025. Please see Figure 2A for an anticipated order of construction.

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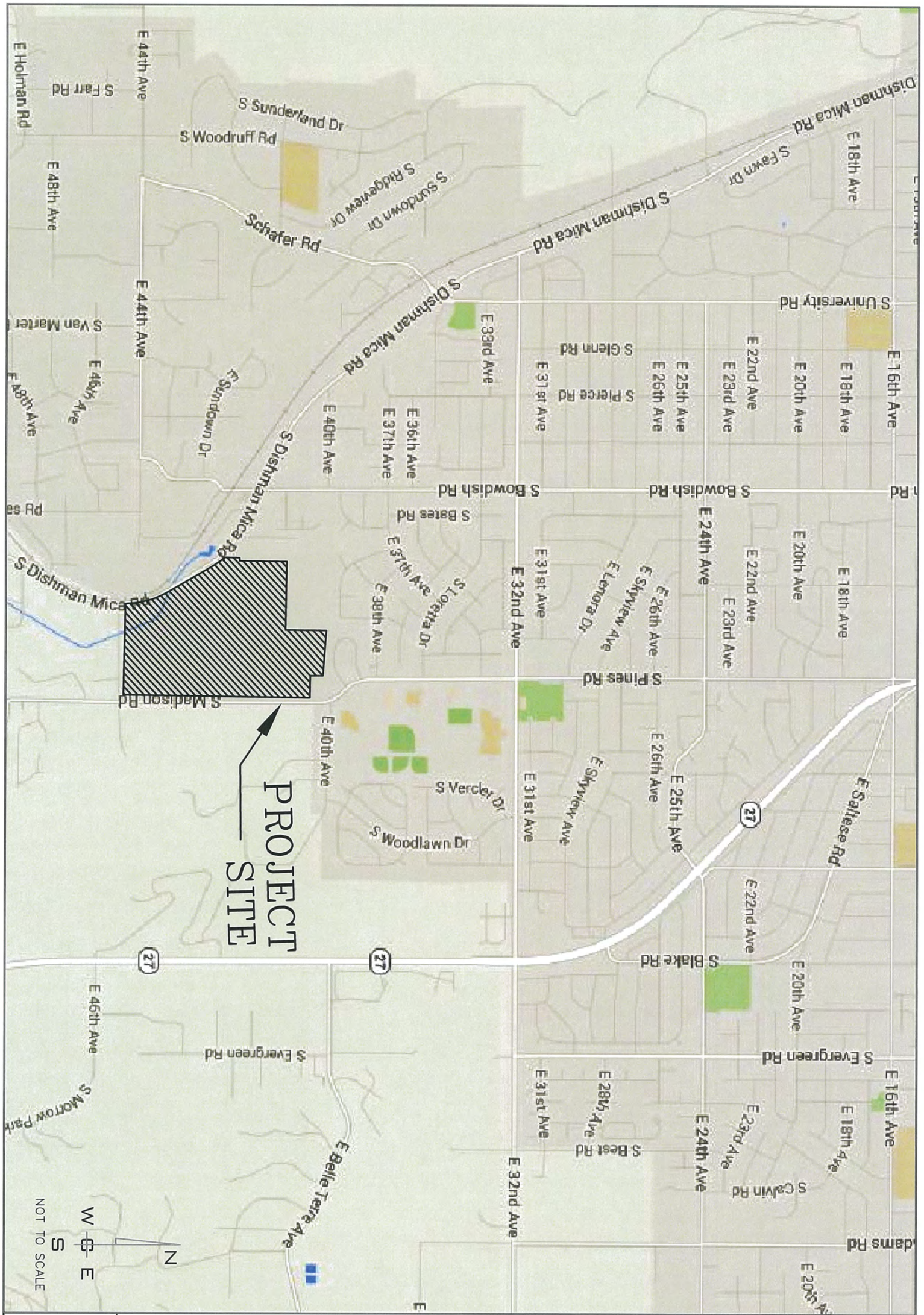

FIGURE 1

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

VICINITY MAP

PROJ #: 13-1166
DATE: 03/25/15
DRAWN: RMA
APPROVED: TRW

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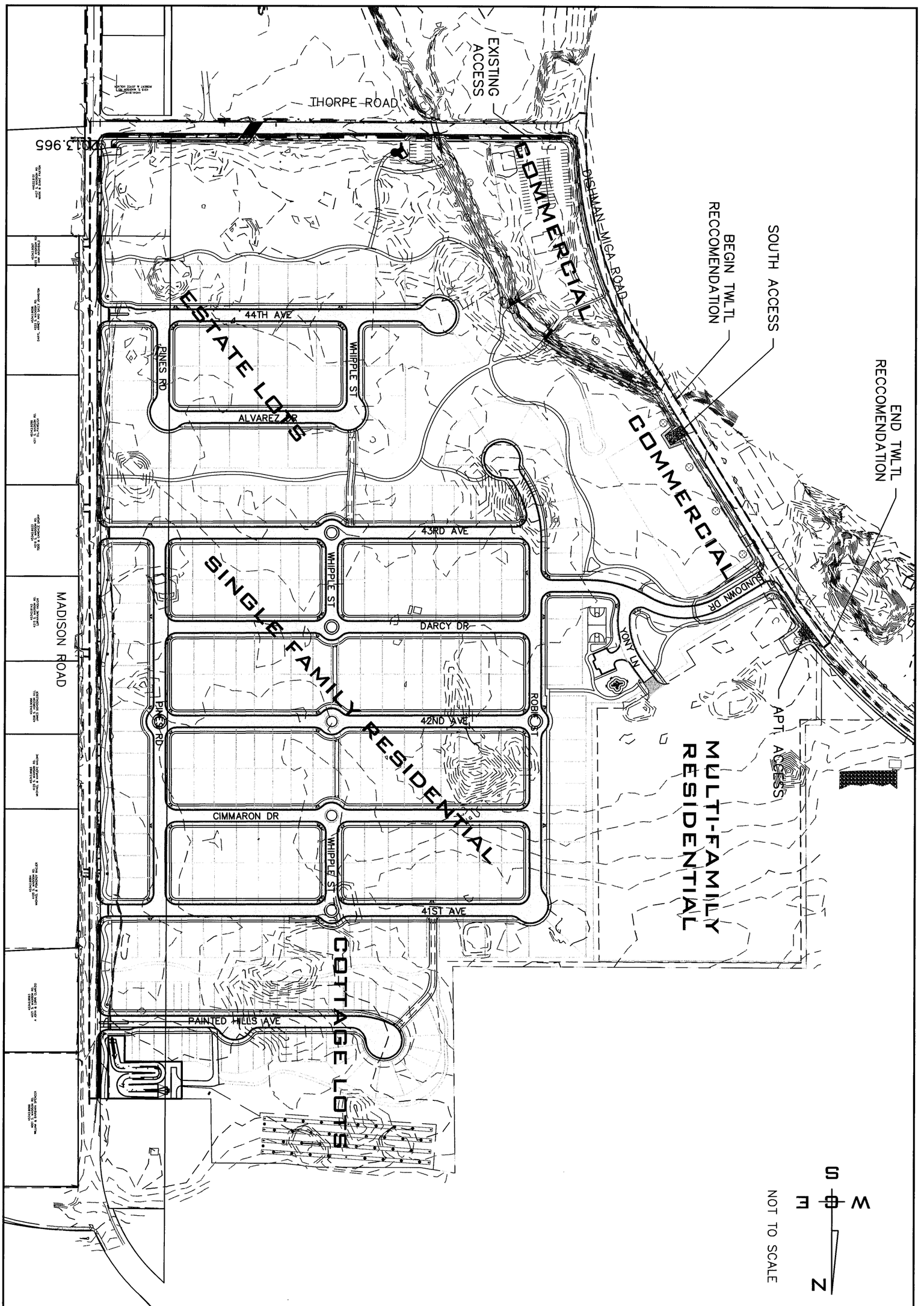

FIGURE 2

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

PRELIMINARY SITE PLAN

PROJ #: 13-1166
DATE: 12/14/15
DRAWN: BNG
APPROVED: TRW

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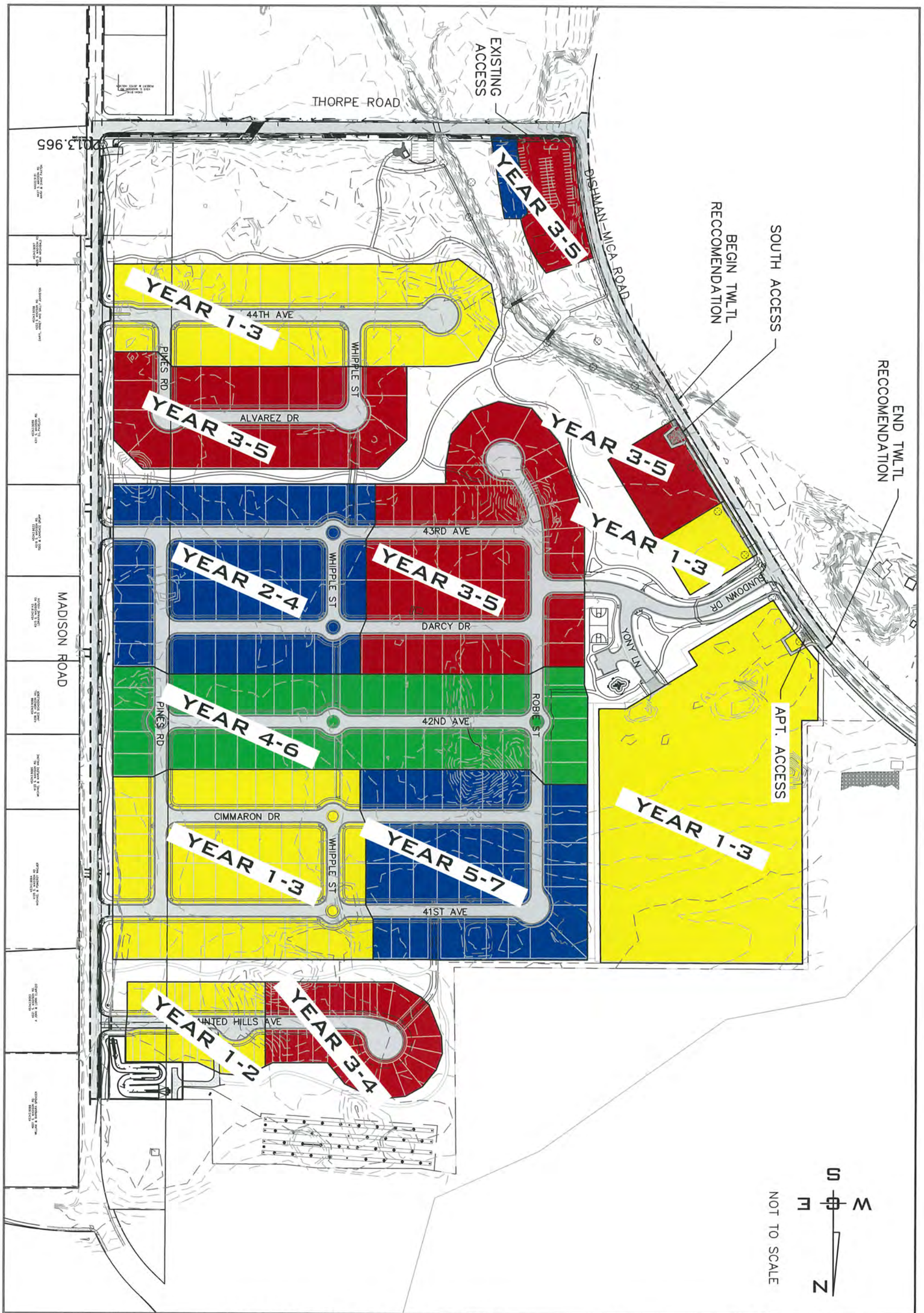

FIGURE 2A

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

DEVELOPMENT TIMELINE

PROJ #: 13-1166
DATE: 12/14/15
DRAWN: BNG
APPROVED: TRW

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Existing Conditions within the Study Area

Land Use & Zoning
The site is located north of Thorpe Road east of Dishman-Mica Road and west of Madison Road in a portion of the SE ¼ of Section 33, T25N R44E W.M., within Spokane Valley, Washington. A vicinity map is included as Figure 1. The project site is currently zoned as Residential 3, and is the previous Painted Hills General Commercial/ Golf Course Site. The parcels to be developed by the project are 45336.9191, 44041.9144, 45334.9135, 45334.0110, 45334.0109, 45334.0108, 45334.0114, 45334.0113, and 45334.0106. Please see Figure 2-Site Plan.

Existing Roadways
The overall transportation network in this area consists of a state route, urban principle arterials, collectors, and local access roads.

Dishman-Mica Road extends south, southeast from Sprague Avenue to State Route 27, Approximately 7.4 miles in length. Dishman-Mica Road is a northwest/southeast two-way, two- and five-lane minor-principal arterial. Dishman-Mica Road is an arterial that serves the residential neighborhoods that extend from Sprague Avenue to Bowdish Road. Dishman-Mica Road intersects with 8th Avenue, 16th Avenue, 32nd Avenue, University/Schafer Road and Bowdish Road with small commercial uses located at or near the intersections of 16th Avenue, University Road and Bowdish Road. Dishman-Mica Road then winds through a rural area before intersecting with State Route 27. Within the study area the posted speed limit on Dishman-Mica Road is 45 MPH.

University Road is a north/south, two-way, 2-, 3-, 4-, & 5-lane minor arterial that serves a large residential area south of Interstate 90. It runs south from Nora Avenue, and crosses several major arterials, until it intersects with Dishman-Mica Road. University Road, between Mission Avenue and Sprague Avenue is a three-lane roadway. From Sprague Avenue to 4th Avenue, it changes to become a five-lane roadway. South of 4th Avenue to Dishman-Mica Road, it reduces to a four-lane roadway and continues to Dishman-Mica Road where the roadway transitions into Schafer Road. Dishman-Mica Road is posted at 35 MPH speed limit within the study area. The University Road section includes bike lanes from 16th Avenue to Mission Avenue, and sidewalks for pedestrians from Dishman-Mica Road to Mission Avenue.

Schafer Road is a north/south, two-way, 2-lane, collector that serves a large residential area south of Dishman-Mica Road. Schafer Road runs south from Dishman-Mica Road to 44th Avenue. Schafer Road, between Dishman-Mica Road and 44th Avenue is a two lane roadway with shoulders, but no sidewalk or bike lanes. Schafer Road is posted at 35 MPH within the study area.

Bowdish Road is a north/south, two-way, 2-lane, minor arterial serving a large residential area south of Interstate 90. Bowdish Road runs south from Mission Avenue, and crosses several major arterials, until it intersects with Sands Road. Bowdish Road, between Mission Avenue and Dishman-Mica Road is a two-lane roadway. South of Dishman-Mica Road, Bowdish Road

crosses the Union Pacific Railway and becomes a local access roadway. Sands Road branches off of Bowdish Road and continues the arterial to 44th Avenue. Bowdish Road is posted at 25 MPH on the local access portion, and is posted on the minor arterial as 35 MPH.

State Route 27 is a north/south, two-way, 2-, 3-, 4-, & 5-Lane State Highway. State Route 27 extends south from Spokane Valley to Pullman, Washington and serves the many small farming communities of the Palouse. Within the City of Spokane Valley, State Route 27 follows the Pines Road alignment between Trent Avenue and 16th Avenue. South of 16th Avenue, State Route 27 shifts to the Blake road alignment serves the surrounding urban residential uses to 32nd Avenue where it serves a small cluster of commercial uses at the intersection of State Route 27 & 32nd Avenue. From Trent Avenue to 16th Avenue the posted speed limit is 35 MPH. From 16th Avenue to the 41st Avenue Alignment the posted speed limit is 45 MPH, beyond 41st Avenue SR 27 generally has a speed limit of 55 MPH.

16th Avenue is an east/west, two-way, 2- & 3-lane minor arterial that extends east from Bluff Drive (west of Dishman-Mica Road). Through the City of Spokane Valley to Shamrock Street (South of Shelley Lake). 16th Avenue generally serves residential land uses and commercial land uses located at the intersections of arterials. The posted speed limit on 16th Avenue is 35 MPH with the exception of the University Elementary, the McDonald Elementary, and the Evergreen Jr. High School zones where the posted speed limit is 20 MPH with beacons. The 16th Avenue Road section from Dishman-Mica Road to Sullivan Road includes sidewalks and bike lanes.

32nd Avenue is an east/west, two-way, 2-, 3- & 4-lane principle arterial. 32nd Avenue extends east from Dishman-Mica Road to Sullivan Road and serves mostly urban residential uses, but also provides access for commercial uses and University High School. The posted speed limit is 35 MPH with the exception of University High School zone where the speed limit is 20 MPH when children are present. The 32nd Avenue Road section has sidewalk from Dishman-Mica Road to SR 27, and bike lanes from University Road to SR 27. Additional sidewalk and bike lanes are from Evergreen Road to Best Road.

Pines Road is a north/south two-way, 2-, 3-, & 5-lane state route and collector that extends south from Trent Avenue to 40th Avenue. From 16th Avenue to 32nd Avenue Pines Road is a proposed Collector. From 32nd Avenue, to 40th Avenue Pines Road is a collector. Pines Road serves residential uses and a commercial land use located on the northwest corner of Pines Road & 32nd Avenue. The speed limit on Pines Road is 35 MPH, with the exception of the South Pines Elementary school zone where the speed limit is 20 MPH with flashing beacons. The Pines Road Roadway section includes sidewalk along its entire length, and includes bike lanes from 22nd avenue to 32nd Avenue.

Evergreen Road is a north/south, two-way, 2-, 3-, 5- & 6-lane urban principle arterial. Evergreen Road extends south from Indiana Avenue to 32nd Avenue and intersects with eight other minor and major arterials in the City of Spokane Valley. From Indiana Avenue to Interstate 90 Evergreen Road has six-lanes. From Interstate 90 to 4th Avenue, Evergreen Road is a five-lane road. From 4th Avenue to 16th Avenue, Evergreen is a three-lane road. From 16th Avenue to 32nd Avenue Evergreen Road is a two-lane roadway The area surrounding Evergreen Road is generally single family residential uses and small pockets of commercial uses located at or near

the arterial intersections. The posted speed limit on Evergreen is 35 MPH. Evergreen Road includes sidewalk from 32nd Avenue to 24th Avenue and from 16th to Indiana. Evergreen Road has a bike lane from 32nd Avenue to Sprague Avenue.

Sullivan Road is a north/south, two-way, 2-, 3- & 5-lane urban principal arterial that extends south from Wellesley Avenue to just beyond 32nd Avenue. Sullivan Road serves East Valley High School and Central Valley High School, residential, and commercial uses. The posted speed limit is 35 MPH. The Sullivan Road Roadway section includes sidewalk and bike lanes from 16th Avenue to 32nd Avenue, and sidewalk from 16th Avenue to Wellesley Avenue.

Madison Road is a north/south, two-way, 2-lane collector road that extends south from the intersection of Pines Road & 40th Avenue, which is northeast of the site, through Thorpe Road, until eventually changing into Mohawk Drive. Madison Road is posted at 35 MPH and provides access to residential roads on its east and west side. Madison Road has no Sidewalk or bike lanes.

Thorpe Road is an east/west, two-way, 2-lane collector road that extends east from Dishman-Mica Road to Madison Road. Thorpe Road generally serves commercial land uses. The posted speed limit on Thorpe Road is 35 MPH.

Study Area Intersections

The project study area intersections were identified through a neighborhood traffic scoping meeting and discussions with the City of Spokane Valley, Spokane County, and the Washington State Department of Transportation (WSDOT). The scope of the study encompasses the AM and PM peak hours of twelve existing intersections and five proposed intersections.

- 32nd Ave & University Rd
- Dishman-Mica Rd & University/Schafer Rd
- 32nd Ave & Bowdish Rd
- Dishman-Mica Rd & Bowdish Rd
- Dishman-Mica Rd & Apt Access (Proposed)
- Dishman-Mica Rd & Sundown Dr. (Proposed)
- Dishman-Mica Rd & Comm. Access (Proposed)
- Dishman-Mica Rd & Thorpe Rd
- Thorpe Road & Comm. Access.
- 16th Ave & Pines Rd
- 16th Ave & SR 27
- 32nd Ave & Pines Rd
- Madison Rd & Painted Hills Ave (Proposed)
- Madison Rd & 41st Ave (Proposed)
- Madison Rd & 43rd Ave (Proposed)
- Madison Rd & 44th Ave (Proposed)
- Madison Rd & Thorpe Rd
- 32nd Ave & SR 27
- 32nd Ave & Evergreen Rd
- 32nd Ave & Sullivan Rd

Traffic Control and Descriptions

32nd Avenue & University Road is a signalized intersection. The intersection has the following lane configuration: the east and westbound approaches have a left-through lane, a through-right lane, and two receiving lanes that immediately reduces to one lane. The north and southbound approaches have a left turn lane, a through lane, a through-right lane, and two receiving lanes.

Dishman-Mica Road & University/Schafer Road is a signalized intersection. The intersection has the following lane configuration: The Dishman-Mica Road westbound approach has a left turn lane, a through lane, a through-right lane, and a single receiving lane. The Dishman-Mica Road eastbound approach has a left turn lane, a through lane, a right turn lane, and two receiving lanes. The Schafer Road northbound approach has a left turn lane, a through-right lane, and a single receiving lane. The University Road southbound approach has a left turn lane, a through lane, a right turn lane, and two receiving lanes.

32nd Avenue & Bowdish Road is a signalized intersection. The intersection has the following lane configuration: the east and westbound approaches have a left turn lane, a through-right lane, and a single receiving lane. The north and bound approaches have a left-through-right lane, and a single receiving lane.

Dishman-Mica Road & Bowdish Road is a signalized intersection. The intersection has the following lane configuration: The Dishman-Mica Road eastbound & westbound approaches have a left turn lane, a through-right lane, and a single receiving lane. The Bowdish Road northbound approach has a left-through-right lane, and a single receiving lane. The Bowdish Road southbound approach has a left-through lane, a right turn lane, and a single receiving lane.

Dishman-Mica Road & Thorpe Road is an unsignalized "T" type intersection with stop control on the Thorpe Road. The intersection has the following lane configuration: the westbound approach has a left-right turn lane, and a single receiving lane. The northbound approach has a through-right lane, and a single receiving lane. The southbound approach has a left-through lane, and a single receiving lane.

16th Avenue & Pines Road is an unsignalized intersection with stop control on Pines Road. The intersection has the following lane configuration: The eastbound approach has a through-right lane, and a single receiving lane. the westbound approach has a left-through lane, and two receiving lanes. The northbound approach has a left-right turn lane, and a single receiving lane. The southbound approach has a left-through-right lane, and no receiving lanes.

16th Avenue & State Route 27 is a signalized intersection. The intersection has the following lane configuration: The eastbound approach has a left-through lane, a right turn lane, and a single receiving lane. The westbound approach has a left-through-right lane and a single receiving lane, with an additional channelized right turn lane that yields to northbound traffic. The northbound & southbound approaches have a left turn lane, a through lane, a through-right lane, and two receiving lanes.

32nd Avenue & Pines Road is a signalized intersection. The intersection has the following lane configuration: all approaches have a left turn lane, a through-right lane, and a single receiving lane.

Madison Road & Thorpe Road is an unsignalized 2-way stop control intersection. There is one stop sign on the eastbound approach and the opposing driveway is obligated to stop on the approach. The intersection has the following lane configuration: the eastbound approach has a left-through- right turn lane, and a single receiving lane. The Westbound approach is a private driveway and includes a left-through-right lane and a single receiving lane The northbound and south bound approaches have a left-through-right lane, and a single receiving lane.

32nd Avenue & State Route 27 is a signalized intersection. The intersection has the following lane configuration: The eastbound approach has a left turn lane, a through lane, a through-right turn lane, and a single receiving lane. the westbound approach has a left turn lane, a through-right lane, and two receiving lanes. The north and southbound approaches have a left turn lane, a through lane, a through-right lane, and two receiving lanes.

32nd Avenue & Evergreen Road is an unsignalized intersection with stop control on Evergreen Road. The intersection has the following lane configuration: The eastbound approach has a left turn lane, a through-right lane, and a single receiving lane. the west, and northbound approaches have a left-through-right lane, and a single receiving lane. The Southbound approach has a right turn lane, a left-through lane, and a single receiving lane.

32nd Avenue & Sullivan Road is an unsignalized "T" type intersection with stop control on 32nd Avenue. The intersection has the following lane configuration: the eastbound approach has a left-right turn lane, and a single receiving lane. The northbound approach has a left-through lane, and a single receiving lane. The southbound approach has a through lane, a right turn lane, and a single receiving lane. There was a westbound approach that was a driveway entrance but has been blocked off for several years.

Traffic Safety

For the intersections within the study area accident report summaries were received from City of Spokane Valley and WSDOT. Generally, accidents are documented by type of occurrence, such as property damage or injury. No fatalities were reported for the study intersections during the last three years.

$$Rate\ per\ MEV = \frac{number\ of\ accidents\ in\ three\ years\ X\ 1\ million}{PM\ Peak\ hour\ volume\ X\ 10\ \ X\ 365\ X\ 3\ years}$$

Equation 4-2 of ITE manual of traffic engineering studies (fourth edition) (modified given the available data, for 3 years and utilizes PM peak hour volumes ~ 10% of ADT)

In this analysis accidents are measured based on frequency per million entering vehicles (MEV). This ratio is a function of the average daily traffic entering the intersection and the annual frequency of accidents. This method of analysis is also considered as an "exposure" analysis. This method of analysis is used to identify areas that need further review. A typical review threshold for accidents at an intersection is 1.00 accidents per MEV. The accident data for the intersections within the study area are shown in Table 1.

Table 1 – Accident Data for Intersections within the Study Area

ACCIDENT DATA								
Intersection	**2011**		**2012**		**2013**		**INTX**	**Per**
	PDO	**INJ**	**PDO**	**INJ**	**PDO**	**INJ**	**ADT**	**MEV**
32nd Ave & University Rd	1	0	1	0	0	0	10,120	0.18
Dishman-Mica Rd & University/Schafer Rd	0	0	2	0	0	2	9,570	0.38
32nd Ave & Bowdish Rd	2	1	2	0	0	0	12,660	0.36
Dishman-Mica Rd & Bowdish Rd	1	2	0	0	0	1	8,190	0.45
Dishman-Mica Rd & Thorpe Rd	0	0	0	0	0	0	4,690	0.00
16th Ave & Pines Rd	4	0	2	2	3	1	10,430	**1.05**
16th Ave & SR 27	1	1	1	2	1	0	13,160	0.41
32nd Ave & Pines Rd	1	0	2	1	2	0	12,510	0.44
Madison Rd & Thorpe Rd	0	0	0	0	0	0	2,190	0.00
32nd Ave & SR 27	1	0	0	0	0	0	16,960	0.11
32nd Ave & Evergreen Rd	0	0	0	0	0	0	10,570	0.00
32nd Ave & Sullivan Rd	0	0	0	0	0	0	7,090	0.00

As shown in the table above most intersections within the study area do not meet or exceed the threshold for further review. However, the intersection of 16th Avenue & Pines Road does exceed the threshold for further analysis.

16th Avenue & Pines Road

A review of the accident data shows that 9 of the 12 accidents reported were accidents that occurred at an angle, typical of a T-bone accident or a failure to yield the ROW by a turning or thru vehicle. The other accidents include a rear-end collision, a fixed object, and a pedestrian incident. For the accidents that occur at an angle, 6 out of the 9 accidents occurred when a SB through vehicle entered the intersection.

Traffic Volumes and Peak Hours of Operation

Traffic counts were collected as required by scoping under the direction of WCE in the months of January through March 2015, however for technical reason associated with the requirements of chapter 3 of the COSV Road standards they were mostly recounted in October 2015. Counts were completed at the following intersections for the peak hour (AM/PM) time listed below:

- 32nd Ave & University Rd (AM & PM)
- Dishman-Mica Rd & University/Schafer Rd (AM & PM)
- 32nd Ave & Bowdish Rd (AM & PM)
- Dishman-Mica Rd & Bowdish Rd (AM & PM)
- Dishman-Mica Rd & Thorpe Rd (AM & PM)
- 16th Ave & Pines Rd (AM & PM)*
- 16th Ave & SR 27 (AM & PM)*
- 32nd Ave & Pines Rd (AM & PM)
- Madison Rd & Thorpe Rd (AM & PM)
- 32nd Ave & SR 27 (AM & PM)
- 32nd Ave & Evergreen Rd (AM & PM)
- 32nd Ave & Sullivan Rd (AM & PM)

The peak hour from these counts are shown on Figures 3 and 4. The raw data for these counts are located in the technical appendix. * intersections volume balanced given proximity.

Public Transit and School Bus Transportation

The Spokane Transit Authority (STA) currently provides service routes to this area. Key Bus stops are located at the following intersections: 16th Avenue & Pines Road, 32nd Ave Avenue & University Road, 32nd Avenue & Pines Road, 32nd Avenue & SR 27, and 32nd Avenue & Evergreen Road. There are additional stops located along the STA routes located about every quarter mile. The STA Stop at the intersection of 32nd Avenue & Pines Road is the closest to the project and is located approximately 3,160 feet +/- or 0.6 mi from the projects northern border on Madison Road.

The Central Valley School District currently provides student bus service to the area.

Public Involvement

On March 3, 2015 a community and traffic scoping meeting was held at the Chester Elementary School located at 3525 S Pines Road, Spokane Valley, WA 99206. The following is a list of questions and concerns raised by the community at the meeting, and our responses at that time.

The responses provided here, are compiled from the meeting notes and are paraphrased for clarity and brevity. Additional information/responses from the traffic study or other source have been provided in order to answer the publics comment to the best of our ability.

Community Meeting

The project was presented as depicted in the preliminary site plan of the TGDL. All phases of the project were described, the proposed units of each phase were stated and the accesses were described. During the pre-amble & opening, Todd Whipple noted the following: That this is an outright permitted use, which this project will not go before city council, but will go before the hearing examiner.

- Question: Who is the developer?

The developer is Dave Black.

- Question: Why was this meeting scheduled on a Tuesday night when no City Council members can attend?

We picked this night, with no intention to not allow Council members to attend. ***City staff wanted it noted here: that after the meeting had been scheduled. They requested that the meeting be moved to a non council night, Since the meeting had already been advertised it would have required another reschedule and confusion to the public.***

- Question: If this is not the right venue to discuss school overload issues, then what is?

If one would like to present his or her concerns about overloading school issues, then he or she is more than welcome to attend the hearing that comes later after these meetings. One is also encouraged to write a letter to the school district, because they will be able to give one a more accurate answer.

- Question: Why are there four accesses to the project to/from Madison Road and only one to/from Dishman-Mica Road?

We tried to keep all of the commercial and apartment development on Dishman-Mica Road.

- Question: Based on the International Fire Code, are you not allowed to place 30 lots on a single access?

We have met with the Fire Department and we have a modified map (attached) that will allow us emergency accesses as required, we did not change the plan for this meeting as this was the plan that was advertised.

- Question: What plan do you have to mitigate the fire safety issue around the Painted Hills area when you are proposing to introduce about 1,300 cars into the mix?

We do not have an answer for this at this time, but the question has been noted. Following up with the agencies, a specific fire safety issue was not identified at this time. If a member of the public has a specific fire safety concern, then we recommend that he/she take that specific concern to the Commissioners of Fire Districts #1 and #8.

- Question: With the current zoning of R3 for this Painted Hills area, don't you have to leave about 30% of the acreage for open space?

According to Spokane Valley zoning codes, if we stay with the R3 zoning, then we are not required to leave any open space at all. However, a Planned Residential Development (PRD) is required to have 30% open space; therefore, we have left 30% open.

- Question: How will this area, all of a sudden, not become a flood plain?

This area is technically only a flood plain, because it is Compensatory Storage. Compensatory Storage means that water that comes onto your land (or this site) sits there and filters through the ground. We will be working with the City and FEMA to address this issue.

- Question: What do you do with the flood plain?

We have to take every drop of water that comes to the site, and we will be coming up with ways to collect it and discharge it into the ground.

- Question: Is this area an AE Zone?

Yes, this area is an AE zone as it relates to Compensatory Storage. We can discharge the water throughout the site in many different ways.

- Question: All of these forms of discharging are shown on the FEMA map?

Yes they are located on the FEMA map.

- Question: When do we all get the chance to ask the questions we want to ask?

We will talk to the developers after this meeting. Your only chance may come at the Hearing. However, we currently do not know when the Hearing will be.

- Question: Will there be notices sent out about these meetings?

Yes, there will be notices sent out about these meetings.

- Question: Since the school district is not allowed to project how many new kids will be coming out of this new development, as they must give an exact amount, when will this bond go up?

We will move through the process this year. As of this moment, it is projected that the development will be built out over the next 5 to 10 years depending on market conditions, as well as other factors. (Checked with the developer buildout may be completed in 10-15 years.)

Traffic

- Question: Are the accesses off of Madison Road set in stone or can they be changed?

This is our proposal as of now and it is set to be designed this way unless traffic provisions do not allow us to do so.

- It was addressed that the school hours are outside of the AM & PM peak hours.

WCE Completed counts around the three schools here are those results: Traffic counts are usually done between 6:30-9:30AM & 3:30-6:30PM. The commuter traffic is where the peak hour is located, not generally during school hours. Tube counts were placed around each of the three schools (Chester Elementary, Horizon Middle, and University High) with the peak hours reported as follows:

Type of Peak Hour	High School		Middle School		Elem. School	
	Vol.	Time	Vol.	Time	Vol.	Time
AM Commuter	806	7:00AM	269	7:15AM	179	7:15AM
AM School	806	7:00AM	269	7:15AM	179	7:15AM
PM School	788	2:15PM	209	2:30PM	139	2:30PM
PM Commuter	966	5:00PM	210	5:00PM	140	5:00PM

As the above table shows, the AM Commuter & AM School peak hours occur at the same time for the High School, Middle School, and Elementary School. The traffic volumes are shared between AM commuters and school travelers, due to the identical peak hour.
Unlike the AM peak hour traffic, the PM Commuter traffic is higher than the PM School traffic for the High School, Middle School, and Elementary School. The traffic volumes are not shared between PM commuters and school travelers, because the peak hours occur at different times. Therefore, if we mitigate or maintain an acceptable level of service for the PM peak hour commuter, the time of greatest impact, then we also mitigate or maintain an acceptable level of service for the other peak hours.

- Question: Who is conducting the Traffic Impact Analysis? Are there going to be turn lanes put in on Dishman-Mica & Madison Road, due to this project?

WCE will be conducting the Traffic Impact Analysis. There will most likely be a widening of these streets for this project.

- Question: Will you take into account that Thorpe Road floods and closes sometimes during the spring?

Yes, we will. This will be considered and included in our flood control plans and reports. This will not be addressed in this report.

- Question: If the study shows that center turn lanes will need to be added to Madison Road, will that be funded by the developer?

Yes, the developer will fund that work.

- Question: Will you be adding a 3-way stop at Madison Road & 40th Avenue? Recently, walking down on 38th Avenue, we were not able to cross the street due to the high volume of traffic.

The concern has been submitted to the City of Spokane Valley Traffic Engineer.

- Question: Will you be studying Woodlawn Road as well? For some reason, people are cutting through Woodlawn Road in order to get to 32nd Avenue.

WCE will study Woodlawn Cut through for the neighborhood, that study is included here:

Tube counters were placed on Woodlawn Road at 32nd Avenue and 40th Avenue, per the public's request. We have reviewed the counts at both ends of the Woodlawn Road, we have considered the 15 single family residences located to the south of 40th Avenue and after considering the trips from those residents a difference of entering and exiting trips can be seen. This difference during the three peak hours are trips that travel between 32nd Avenue & 40th Avenue and are as follows:

> **In the AM peak hour beginning at 7 AM there may possibly be 79 southbound cut-through trips and 38 northbound cut-through trips. For the 2 PM peak hour there may be 66 southbound cut-through trips and 57 northbound cut-through trips. For the 5 PM peak hour there may be 39 southbound cut-through trips and 29 northbound cut-through trips.**

As some of these trips primarily coincide with the School Peak hours, the reasons for these trips may be from congestion on 32nd Avenue in front of the High School, or from parents that are picking up and dropping off students at the middle or elementary schools, desiring a northbound orientation. However, this type of tube count study is limited as trips will sometimes double back on the anticipated route

Therefore, a video of each end of Woodlawn was conducted simultaneously. A member of the staff then reviewed the tapes noting vehicle type, color, and time to identify vehicle. During the AM peak hour there were 5 cut-through trips identified, and in the PM peak hour there were 7 cut-through trips identified.

Considering this information and given the volumes of traffic counted on Woodlawn Road there is no roadway capacity issue as a local access roadway can support the traffic volumes counted. Therefore, we must conclude that the main concern is speeding on Woodlawn Road, an element that we have not measured, and is not a part of this study. From our experience not all cut-through traffic speeds through a cut-through route. But speeding can be done by even those that live within the neighborhood. Therefore, we are going to leave this as an enforcement issue with the City of Spokane Valley.

We recommend that the neighborhood association invite a representative of the Spokane Valley Police department to attend one of their meetings in order to discuss the speeding issue. We also recommend that the neighborhood association talk to the public works director, and the traffic engineer of the City of Spokane Valley to discuss how they may incorporate traffic calming measures that will not interfere with road maintenance, such as curb extensions or traffic circles.

- Question: As a board member of Midlome East (neighborhood association), we have tried to talk to the agencies about the high traffic volumes on Woodlawn Road for the last 10 years, and have gotten nowhere. Will this issue get addressed?

We are aware of some of the issues with cut-through traffic. We will talk to the jurisdictions about this issue and see how they would like us to proceed.

- Question: Why is Pines Road shown as a Minor route for a portion of the road instead of a Major route throughout?

This issue will be addressed through the traffic counts, which will give us the necessary data to possibly consider Pines Road a major route throughout.

- Question: Will the developer pay for the mitigations?

The developer will pay for anything that he breaks (yes, he will mitigate to project impacts).

- There was a comment that someone lived on Woodlawn Road and eventually moved due to the extremely high traffic volumes.

This comment has been noted, Counts of Woodlawn do not seem excessive for a roadway utilized as a collector in the City of Spokane Valley.

- There was a comment that the intersection of Pines Road & 24th Avenue should be included in this study due to the high amount of people who travel through this intersection.

This comment has been noted; however, the agencies did not include this intersection into the study.

- Question: How long does the traffic study last?

Traffic studies are based on traffic counts. Counts are done on Tuesdays, Wednesdays, & Thursdays during the previously mentioned peak hours. These days have proven to be the most reliable and most accurate for showing true traffic volumes on the streets. In commercial areas, counts are performed from 10AM to 2PM. We do not count Sundays, unless there is a church problem. We can do a combination of tube counts and individual counts.

- There was a comment made that Chester School, on Thursdays, starts at 10:10AM.

This comment has been noted. See the previous response with regard to school peak hours.

- There was a comment made that tomorrow at 6PM, there is a community vision meeting at Mirabeau.

Our advice was to pay close attention to Growth Management and Growth Management meetings.

- Question: When will the traffic study start?

The traffic counts will begin next week.

- Question: Is each intersection scoped only counted once?

Yes, once in the AM and once in the PM.

- Question: Will the congestion, due to the school traffic on Pines Road, be accounted for in the traffic counts?

If the congestion falls within the time that the counts occur, then yes it will be counted in.

- Question: Will you count pedestrians?

Pedestrians were counted at the intersections. For the signalized intersections the pedestrians are grouped and queued at the corner where they push the crosswalk button and then cross the roadway this action is call a pedestrian call by the traffic software and is included as such. For pedestrians at an unsignalized intersection pedestrians are recorded, but are not used by the traffic software to model the intersection.

- Question: Where can we go to affect change?

One can go to the Growth Management meeting and participate in the Growth Planning Processes, and one can also attend the Hearing and speak to the Hearing Examiner.

- Question: How do you calculate the traffic volumes based on the number of new units to be installed?

Prior to this meeting, WCE turned in a Trip Generation & Distribution Letter to the jurisdictions that allowed us to have this meeting. We use the ITE Trip Generation Manual 9th Edition.

- Question: Can you describe an intersection? What is an intersection to you?

An intersection is where two streets come together or when a driveway and a street come together.

- Question: How many apartment projects are going in? How many people are there going to be? Who is paying the taxes on this new project to help build the new schools?

There is only the one apartment complex that is being proposed. There is also a mixed-use apartment land use. Studies show that about 1.77 people live in each unit. Also, the owner of the apartment complex pays property taxes that go to help fund the local schools.

- Question: If we live on 32nd Ave & McDonald Street and it is already hard for us to get onto 32nd Ave, doesn't it make sense that this problem will only get worse?

When we perform the traffic counts on certain intersections, we will calculate Level of Service for each intersection. Level of Service is based on a letter grade A-F, with F being the worst case. Todd Whipple then described the Levels of service with the delays and experiences of the driver.

- Question: Will you be studying where there are children school crosswalks?

A review of school crosswalks was not included, as this review would be between the school district and the City of Spokane Valley.

- Question: If it is decided that Madison Road needs further expansion, how will the traffic flow operate during construction?

The road will most likely not be closed if under construction, but after talks with the school districts and the City, construction will most likely be conducted throughout normal traffic hours.

- Question: Who decides which intersections will be counted in the study?

The agencies of the City of Spokane Valley, Spokane County, and WSDOT. You can also contact the City to see when the scoping meeting will take place in order to be a part of that.

- Question: What is your goal for LOS when conducting a traffic study?

It depends on the intersection and the Level of Service. If further mitigation has to be done to fix an intersection than that will occur. However, if the jurisdictions decide that, for instance, at

an intersection where a Level of Service "E" is existing and will continue to be this way, there might not be any change.

- Question: Are there any plans to run 40th Avenue over to Highway 27?

There used to be plans or Right-of-way, but there are no such plans anymore.

- Question: Are you planning for sidewalks & streetlights on Dishman-Mica Road & Madison Road?

Yes, as part of the frontage improvements to the streets, sidewalks and streetlights will be added or improved.

- Question: For the cottages, will there be one or two accesses?

There will be two accesses.

- Question: Are you familiar with Robie Street? Is there any chance that there could be access to the cottages using Robie Street?

WCE is not familiar with this intersection, but this question of an additional access to the north has been noted. ***After finding Robie Street, it was determined that the development will not pursue an access to the north.***

- Question: If from the traffic study, it is found that the intersection of 32nd Ave & Pines Road becomes highly congested, what is your solution?

We do not have a solution at this time. Through further study, it is our responsibility to find a solution if there happens to be a high congestion problem.

- Question: Will any changes that come from the traffic study be done before or after the construction?

Any changes in traffic will be concurrent with construction.

- Question: How far out, geographically, is the study responsible for?

The City of Spokane Valley & Spokane County have standards that we follow when performing the study. They will tell us which intersections to study, and before the study is completed, further intersections could be studied based on previous observations & data.

- Question: What would be needed to expand Dishman-Mica Road from two lanes to four lanes from University Road to Madison Road?

It would take a large additional traffic impact in order to expand the road in these areas.

- Question: Could you add a traffic count on the intersection of Woodlawn Road & 40th Ave?

Please see previous response regarding the additional traffic study to Woodlawn Road.

- Question: How much increase in traffic volume would warrant the installation of a new traffic signal?

Once intersections move towards a LOS "F", we move to a section called "Warrants". If an intersection moves towards two to four warrants, then a traffic signal could be installed.

- Question: How long is the time span for the traffic study, as the volume will grow over time as developments go up?

We will perform the traffic study for each phase of construction, and if a certain phase requires work to be done to improve a traffic problem, then the work will be done during that phase.

- There was a comment made that it seems like a conflict of interest for WCE to say that "we" are performing the traffic study.

The jurisdictions make the developer hire a traffic engineer to perform the study. The traffic engineer turns the work into the City, who then reviews it and makes necessary comments. Then, the traffic engineer makes the changes and eventually the City accepts the study as their own traffic study for the developer and his or her project, all as part of the SEPA and concurrency process.

- Question: How many cars does it take to determine a certain Level of Service?

LOS is determined by average delay, not the numeric number of cars waiting or using an intersection.

- Question: How many phases will there be for this project?

At this time, WCE has not decided the number of phases for the proposed project.

- Question: Living on Dishman-Mica Road, I'm wondering how long the left turn lanes would be off of the proposed center turn lane, because some turns are tight and short?

Left turns lanes are usually no less than 100 feet long, and not longer than 300 feet.

- Question: Do you consider projects that have already been approved by the County into your study?

Yes, we do consider these background projects into our traffic study. Further analysis is performed on projects that have been approved, but not fully built out. We treat all background projects to be fully built out to account for the most conservative results. Please see the background project section of this report.

- Question: Are you aware that there are developments along Madison Road that have been previously permitted by the County?

Please see the background project section of this report.

Note: WCE observed that many of the school congestion questions were from directly affected parents and seniors, that have a history of leaving and returning to their residence from 9 AM to 3 PM. WCE believes that this non-commuter perspective has skewed their perspective of the Peak hour. This being said the provided tube counts have established the peak traffic around the schools.

LEVEL OF SERVICE

Level of service (LOS) is an empirical premise developed by the transportation profession to quantify driver perception for such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles afforded to drivers who utilize the transportation network. It has been defined by the Transportation Research Board in the *2010 Highway Capacity Manual.* This document has quantified level of service into a range from "A" which indicates little, if any, vehicle delay, to "F" which indicates significant vehicle delay and traffic congestion that may lead to system breakdown due to volumes that may exceed capacity.

Signalized Intersections

For signalized intersections, research has determined that average delay per vehicle is the best available measure of level of service. The following tables identify the relationships between level of service and average stopped delay per vehicle. City of Spokane Valley (Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan), and WSDOT have adopted level of service D as the minimum acceptable level for all signalized intersections.

Level of Service Criteria and Descriptions - Signalized

LOS	Delay Range (sec)	General Description
A	10	• Very low delay at intersection. • All signal cycles clear. • No vehicles wait through more than one signal cycle.
B	10 to 20	• Operating speeds beginning to be affected by other traffic. • Short traffic delays at intersections. • Higher average intersections delays resulting from more vehicles stopping.
C	20 to 35	• Operating speeds and maneuverability closely controlled by other traffic. • Higher delays at intersections than for LOS B due to a significant number of vehicles stopping. • Not all signal cycles clear the waiting vehicles.
D	35 to 55	• Tolerable operating speeds, but long traffic delays occur at intersections • The influence of congestion is noticeable. • Many vehicles stop and the proportion of vehicles not stopping declines. • The number of signal cycle failures, for which vehicles must wait through more than one signal cycle are noticeable.
E	55 to 80	• Speeds are restricted, very long traffic delays are experienced and traffic volumes are near capacity. • Traffic flow is unstable, any interruption, no matter how minor, will cause queues to form and service to deteriorate. • Traffic signal cycle failures are frequent occurrences.
F	80	• Extreme delays resulting in long queues which may interfere with other traffic movements • Stoppages of long duration and speeds may drop to zero. • Vehicle arrival rates are greater than capacity. • Considered unacceptable by most drivers.

Unsignalized Intersections

The calculation of level of service (LOS) at an unsignalized one/two-way stop-controlled intersection is examined in the Transportation Research Board's *2010 Highway Capacity Manual*. For unsignalized intersections, level of service is based on the delay experienced by each movement and approach within the intersection. The concept of delay as presented for unsignalized intersections in the Highway Capacity Manual is based on the amount of time a vehicle must spend at the intersection. Vehicles passing straight through the intersection on the major (uncontrolled) street experience no delay at the intersection. On the other hand, vehicles which are turning left from the minor street, because they must yield the right of way to all right turning vehicles, all left turning vehicles from the major street and all through vehicles on both the minor and major streets, must spend more time at the intersection. Levels of service are assigned to individual movements within the intersection, and are based upon the delay experienced by each movement or approach.

The Transportation Research Board has determined what levels of service for unsignalized intersections should be, by designating level of service A through F, where level of service A represents a facility where no vehicle in any movement is delayed very long and level of service F which represents a facility where there is excessive delay for the average vehicle in at least one movement in the intersection. City of Spokane Valley (Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan), and WSDOT have adopted level of service E for all unsignalized intersections within the study area.

Level of Service Criteria and Descriptions - unsignalized

LOS	Delay Range (sec)	Expected Delay to Minor Street Traffic	General Description
A	10	Little to No Delay	• Nearly all drivers find freedom of operation. • Very seldom is there more than one vehicle in the queue.
B	10 to 15	Short Traffic Delays	• Some drivers begin to consider the delay an inconvenience • Occasionally there is more than one vehicle in the queue.
C	15 to 25	Average Traffic Delays	• Many times there is more than one vehicle in the queue. • Most drivers feel restricted, but not objectionably so.
D	25 to 35	Long Traffic Delays	• Often there is more than one vehicle in the queue. • Drivers feel quite restricted.
E	35 to 50	Very Long Traffic Delays	• Represents conditions in which, demand is near or equal capacity. • There is almost always more than one vehicle in the queue. • Drivers find the delays approaching intolerable levels.
F	50	Stop-and-Go Condition Delays Generally Longer than Acceptable	• Forced flow. • Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection

All level of service analyses described in this report were performed in accordance with the procedures described above. As a final note, the Highway Capacity Manual (HCM) analysis and procedures are based upon worst case conditions. Therefore, most of each weekday and the weekends will experience traffic conditions better than those described within this document, which are only for the peak hours of operation.

Existing Level of Service and Traffic Analysis

The existing levels of service at the existing intersections were calculated using the methods from the *2010 Highway Capacity Manual* as implemented in Synchro, *version 9 - Build 902.* The existing levels of service for the intersections within the study area are summarized on the following table. The existing traffic volumes used for this report are shown on Figures 3 & 4.

Table 2 – Year 2015 Existing Intersections Levels of Service

INTERSECTION (S)ignalized (U)nsignalized		**AM Peak Hour**		**PM Peak Hour**	
		Delay (sec)	**LOS**	**Delay (sec)**	**LOS**
32nd Ave & University Rd***	S	11.5	B	11.4	B
Dishman-Mica Rd &University/Schafer Rd***	S	15.7	B	16.5	B
32nd Ave & Bowdish Rd***	S	13.1	B	11.7	B
Dishman-Mica Rd & Bowdish Rd***	S	12.0	B	11.1	B
Dishman-Mica Rd & Thorpe Rd***	U	10.7	B	10.4	B
16th Ave & Pines Rd (AM* PM***)	U	20.2	C	32.4	D
16th Ave & SR 27(AM* PM***)	S	27.7	C	25.5	C
32nd Ave & Pines Rd***	S	23.5	C	17.7	B
Madison Rd & Thorpe Rd**	U	11.0	B	9.5	A
32nd Ave & SR 27***	S	19.6	B	23.0	C
32nd Ave & Evergreen Rd(AM* PM***)	U	10.6	B	17.7	C
32nd Ave & Sullivan Rd(AM* PM***)	U	11.1	B	12.1	B

Intersections Counted: * January 2015, ** March 2015, *** October 2015

Intersection Level of Service - Deficiency Evaluation

There are no deficiencies identified for intersection level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan.

Intersection Movement Queue –Deficiency Evaluation for Existing Condition

The existing queue deficiencies are identified on Table 3 and are described as follows; all noted intersections are currently functioning at acceptable levels of service. All volumes are calculated and are not observed.

- The EB thru approach of the intersection of 16th Avenue & Highway 27 where the existing queue of 462 feet exceeds the available space of 60 feet by 402 feet.

- The WB thru approach of the intersection of 16th Avenue & Highway 27 where the existing queue of 258 feet exceeds the available space of 170 feet by 88 feet.

- The WB left turn approach of the intersection of 32nd Avenue & Highway 27 where the existing queue of 191 feet exceeds the available space of 150 feet by 41 feet.

- The WB thru approach of the intersection of 32nd Avenue & Highway 27 where the existing queue of 373 feet exceeds the available space of 165 feet by 208 feet.

Table 3 – Existing PM Peak Intersection Individual Movement Queue Lengths 95th Percentile

INTERSECTION (A)vailable Lane Storage (Q)ueue within the Storage Lane		**EB**			**WB**			**NB**			**SB**		
		L	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**
32nd Ave & University Rd	A		345			582		100	400		100	265	
	Q		105			81		27	26		81	34	
Dishman-Mica Rd & University/Schafer Rd	A	150	1,213	1,213	60	1,978		130	280		90	550	550
	Q	30	248	46	53	70		81	58		46	98	0
32nd Ave & Bowdish Rd	A	200	590		200	990			445			280	
	Q	9	282		32	155			98			119	
Dishman-Mica Rd & Bowdish Rd	A	100	863		100	680			360			290	135
	Q	17	158		26	84			90			80	0
Dishman-Mica Rd & Thorpe Rd	A					1,303						700	
	Q					10						5	
16th Ave & Pines Rd*	A				60				662			300	
	Q				5				50			147.5	
16th Ave & SR 27*	A		**60**	60		**170**		240	3,708		325	630	
	Q		**462**	17		**262**		49	170		131	181	
32nd Ave & Pines Rd*	A	240	490		240	980		130	425		160	700	
	Q	24	434		41	273		38	64		43	86	
Madison Rd & Thorpe Rd	A		1,303						400				
	Q		7.5						2.5				
32nd Ave & SR 27*	A	170	900		**150**	**165**		200	460		265	1,240	
	Q	121	221		**191**	**373**		159	101		74	138	
32nd Ave & Evergreen Rd	A	100									75	315	
	Q	17.5									17.5	42.5	
32nd Ave & Sullivan Rd	A		600										
	Q		40										
A = Available Space (ft) Q = 95th Percentile Queue Length					Apparent Deficiency								

*A graphical exhibit of these Queue lengths are shown on Figures 13A through 13c.

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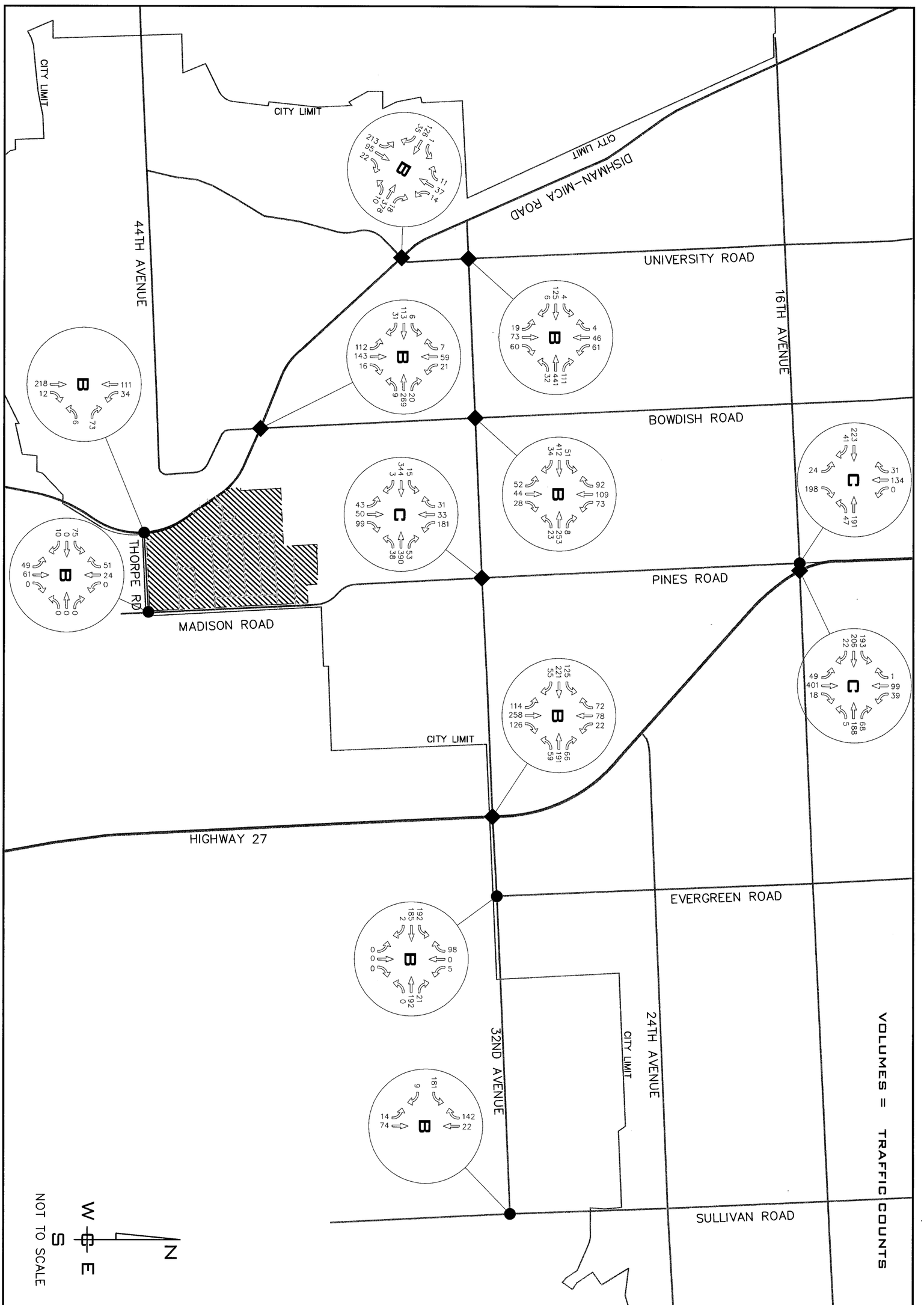

FIGURE 3

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

2015 AM TRAFFIC VOLUMES & LOS

PROJ #: 13-1166
DATE: 12/14/15
DRAWN: BNG
APPROVED: TRW

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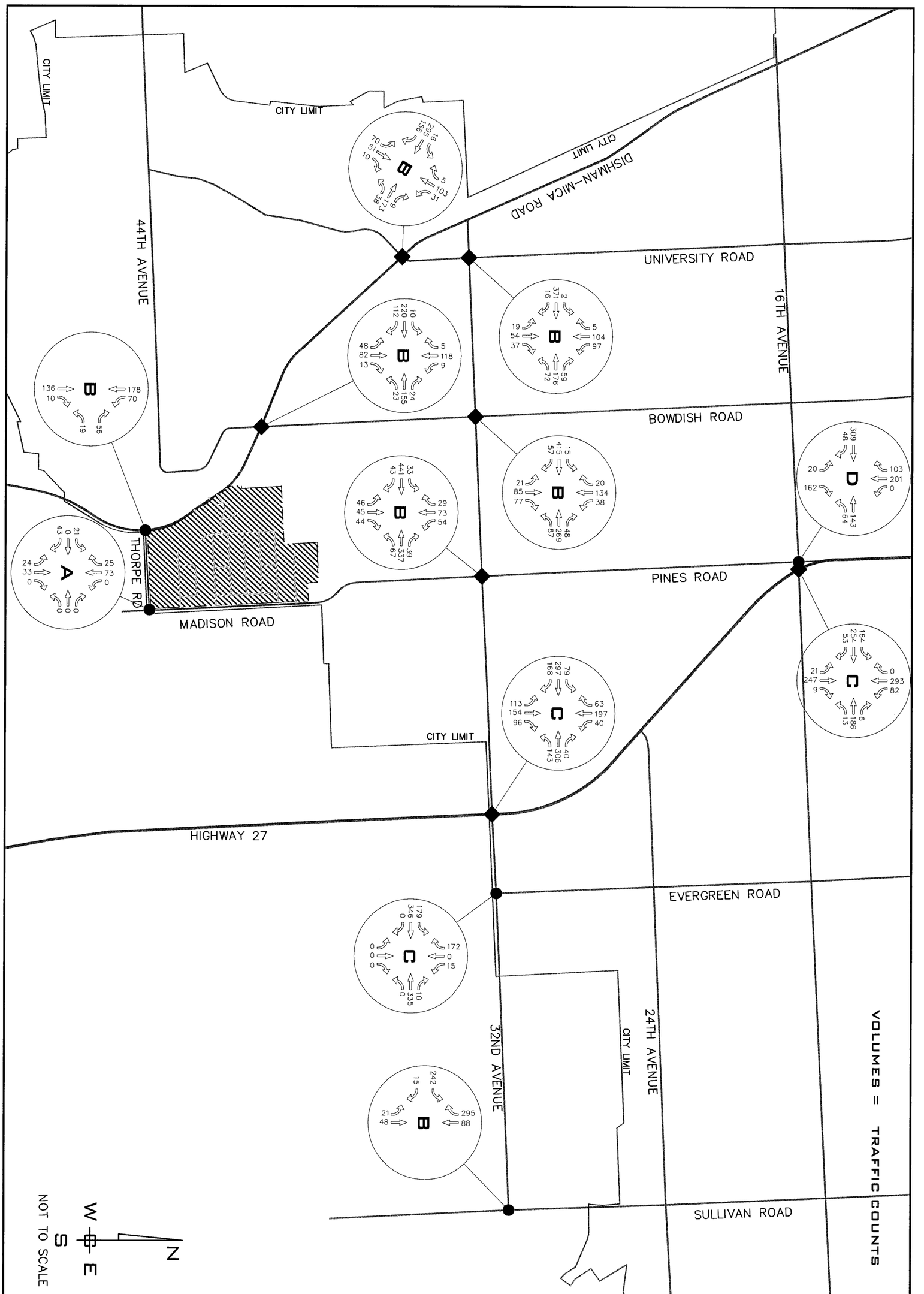

FIGURE 4

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

2015 PM TRAFFIC VOLUMES & LOS

PROJ #: 13-1166
DATE: 12/14/15
DRAWN: BNG
APPROVED: TRW

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Background Traffic Growth

Background traffic growth is an anticipated increase in traffic volume from year to year. As the existing land uses that surround a transportation facility mature, an increase in traffic results may be due to either an increase in drivers per household or a household's purchase of an additional vehicle. Many things can cause an increase in the traffic volumes of a facility. The objective of the background traffic growth rate is to anticipate what the traffic volumes may be in the future. The background traffic growth rate for an area or street is determined by means of physical counts collected by local governmental agencies. The counts are compared on a yearly basis and a rate of increase is calculated from the data.

For the study area, the background growth rate was determined by the City of Spokane Valley to be 1.1% per year. Based on a ten-year build out (2025), compounded annually, the total increase in traffic is anticipated to total 11.6%. For the buildout plus 5 years (2030) the total increase in traffic is anticipated to total 17.8%.

Background Project Traffic

In addition to the increase in background growth, background projects that have already been approved or have made application and vested before this project have been included. The following projects have been scoped by the City of Spokane Valley, Spokane County, and WSDOT.

Table 4 – Background projects and Vested AM & PM Trips

Background Project	Remaining Lots/ units	AM Peak Hour Trips			PM Peak Hour Trips		
		Total	In	Out	Total	In	Out
Paxton Addition	13 lots	10	3	7	13	8	9
The Creek at Chester	44 lots	33	9	24	44	29	15
Pine Valley Ranch Apts.	132 units	69	14	55	90	59	31
Elk Ridge Heights	78 lots	59	15	44	79	51	28
Total Vested	-	**171**	**41**	**130**	**226**	**147**	**83**

Since the traffic from these background projects are not currently included in the existing traffic counts/volumes, the AM & PM trips anticipated from these developments are added to the future projected traffic volumes. Please see the anticipated increase of traffic due to the build out of these background projects per intersection on Figures 5 & 6.

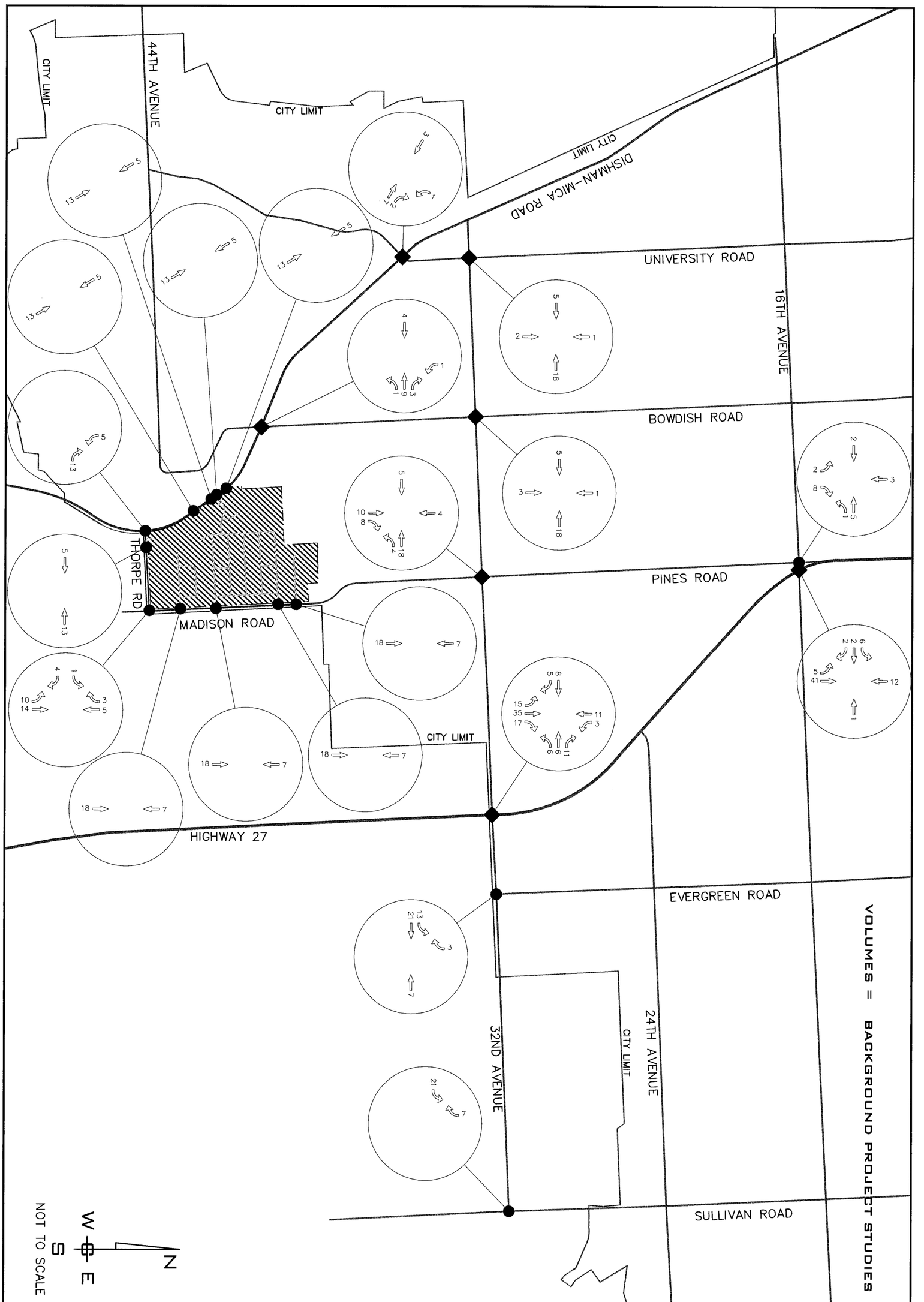

FIGURE 5

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

AM BACKGROUND TRIPS

PROJ #: 13-1166
DATE: 12/14/15
DRAWN: BNG
APPROVED: TRW

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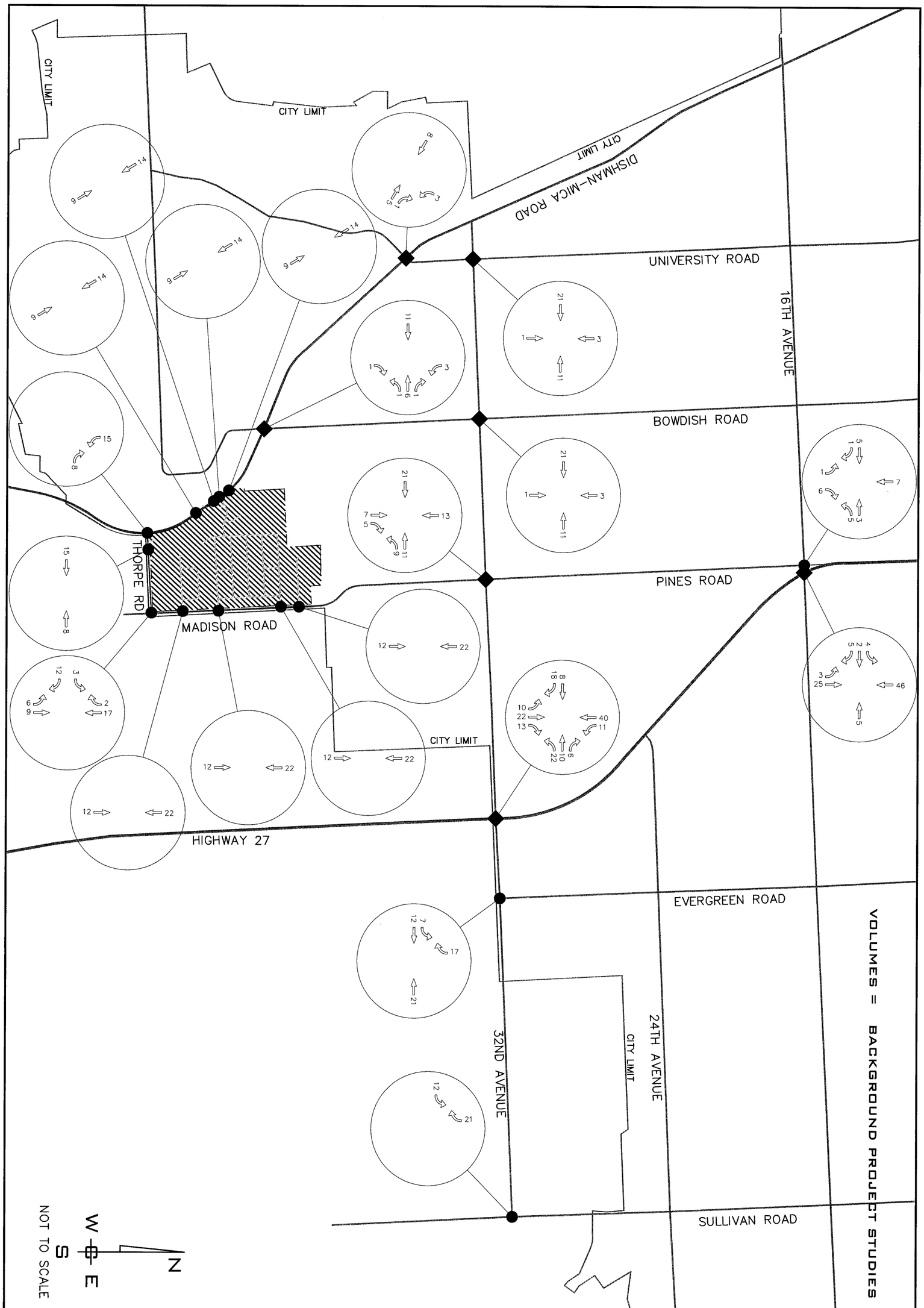

FIGURE 9

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

PM BACKGROUND TRIPS

PROJ #: 13-1166
DATE: 12/14/15
DRAWN: BNG
APPROVED: TRW

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TRIP GENERATION AND DISTRIBUTION

Trip generation rates for the AM and PM peak hours are determined by the use of the *Trip Generation Manual, 9th Edition* published by the Institute of Transportation Engineers (ITE). The purpose of the *Trip Generation Manual* is to compile and quantify empirical data into trip generation rates for specific land uses within the US, UK and Canada.

For the proposed development that includes 52 Cottage Style Single Family Lots, 206 Single Family Residential Lots, 42 Estate Type Single Family Lots, 228 Apartment Units, and two areas of commercial development (north-south). The north area includes 13,400 sf (13.4 KSF) of Retail area as well as 52 apartment units proposed to be located above the retail area. The south area includes 9,000 sf (9.0 ksf) of retail area and a 4,000 sf (4.0 KSF) Quality Restaurant. The ITE Trip Generation Land Use Code (LUC) for each land use is listed below in Table 5.

Table 5 – Description of Land Use Code

Description	Number of Units / KSF	Land Use Code (LUC)
Cottage Style Single Family Lots	52 Units	Residential Townhouses – 230
Single Family Residential	206 Units	Single Family Residential – 210
Single Family Residential Estate Type	42 Units	Single Family Residential – 210
Apartments	228 Units	Apartments – 220
Apartments (mixed use) (North)	52 units	Apartments – 220
Commercial Development (North)	13.4 KSF	Shopping Center – 820
Commercial Development (South)	9.0 KSF	Shopping Center – 820
Existing Restaurant (South)	4.0 KSF	Quality Restaurant - 931

Cottage Style Single Family Lots

For the 52 Cottage Style Single Family lots, Land Use Code #230, Residential Condominium/Townhouses was used to determine the trips generated by the proposed land use. The trips generated by the cottage Style Single Family land use are shown in Table 6.

Table 6 - Trip Generation Rates for Cottage Style Single Family Lots LUC #230 Residential Townhouses

Number of Lots	AM Peak Hour Trips			PM Peak Hour Trips		
	Vol. @ 0.44 trips/ Unit	Directional Distribution		Vol. @ 0.52 trips/ Unit	Directional Distribution	
		17% In	83% Out		67% In	33% Out
52	23	4	19	28	19	9

Average Daily Trip Ends (ADT)		
Lots	Rate	ADT
52	5.81	303

As shown in Table 6, in the AM peak hour the land use is anticipated to generate 23 new trips, with 4 new trips entering the site, and 19 new trips exiting the site. In the PM peak hour, the land use is anticipated to generate 28 new trips; with 19 new trips entering the site, and 9 new trips exiting the site. The land use is anticipated to have an Average Daily Trips (ADT) of 303 trips to/from the site per day.

Single Family Residential

For the 206 single family units, Land Use Code #210, Single Family Residential, was used to determine the trips generated by the proposed land use. The trips generated by the single family residential land use are shown in Table 7.

Table 7 - Trip Generation Rates for Single Family Lots LUC #210 Single Family Residential

Number of Lots	AM Peak Hour Trips			PM Peak Hour Trips		
	Vol. @ 0.75 Trips/Unit	Directional Distribution		Vol. @ 1.0 Trips/Unit	Directional Distribution	
		25% In	75% Out		63% In	37% Out
206	155	39	116	206	130	76
Internal	0	0	0	5	3	2
New	155	39	116	201	127	74
Average Daily Trip Ends (ADT)						
Lots	Rate	ADT				
206	9.52	1,962				

As shown in Table 7, in the AM peak hour the land use is anticipated to generate 155 new trips, with 39 new trips entering the site, and 116 new trips exiting the site. In the PM peak hour the land use is anticipated to generate 201 new trips; with 127 new trips entering the site, and 74 new trips exiting the site. The land use is anticipated to have an Average Daily Trips (ADT) of 1,962 trips to/from the site per day.

Estate Type Single Family Lots – Single Family Residential

For the 42 Estate Type Single Family lots, Land Use Code #210, Single Family Residential, was used to determine the trips generated by the proposed land use. The trips generated by the Estate type lots land use are shown in Table 8.

Table 8 - Trip Generation Rates for Estate Type Single Family Lots LUC #210 Single Family Residential

Number of Units	AM Peak Hour Trips			PM Peak Hour Trips		
	Vol. @ 0.75 Trips/Unit	Directional Distribution		Vol. @ 1.0 Trips/Unit	Directional Distribution	
		25% In	75% Out		63% In	37% Out
42	32	8	24	42	26	16
Average Daily Trip Ends (ADT)						
Units	Rate	ADT				
42	9.52	400				

As shown in Table 8, in the AM peak hour the land use is anticipated to generate 32 new trips, with 8 new trips entering the site, and 24 new trips exiting the site. In the PM peak hour, the land use is anticipated to generate 42 new trips; with 26 new trips entering the site, and 16 new trips exiting the site. The land use is anticipated to have an Average Daily Trips (ADT) of 400 trips to/from the site per day.

Apartments – Multi-Family Residential

For the 228-unit Multi-Family Apartment Complex, Land Use Code #220, Apartment was used to determine the trips generated by the proposed land use. The trips generated by the apartment land use are shown in Table 9.

Table 9 - Trip Generation Rates for Apartment Units LUC #220 Apartment

Number of Units	AM Peak Hour Trips			PM Peak Hour Trips		
	Vol. @ 0.51 Trips/Unit	Directional Distribution		Vol. @ 0.62 Trips/Unit	Directional Distribution	
		20% In	80% Out		65% In	35% Out
228	117	23	94	142	92	50
Internal	0	0	0	4	2	2
New	117	23	94	138	90	48

Average Daily Trip Ends (ADT)		
Units	Rate	ADT
228	6.65	1,517

As shown in Table 7, in the AM peak hour the land use is anticipated to generate 117 new trips, with 23 new trips entering the site, and 94 new trips exiting the site. In the PM peak hour the land use is anticipated to generate 137 new trips; with 89 new trips entering the site, and 48 new trips exiting the site. The land use is expected to have an Average Daily Trips (ADT) of 1,517 trips to/from the site per day.

52 Apartments (Mixed Use) – Multi-Family Residential

For the Multi-Family Apartment Units (Mixed Use) located above the commercial development, Land Use Code #220, Apartment was used to determine the trips generated for the proposed land use. The trips generated by the Apartment (Mixed Use) land use are shown in Table 10.

Table 10 - Trip Generation Rates for LUC #220 Apartment (Mixed Use)

Number of Units	AM Peak Hour Trips			PM Peak Hour Trips		
	Vol. @ 0.51 Trips/Unit	Directional Distribution		Vol. @ 0.62 Trips/Unit	Directional Distribution	
		20% In	80% Out		65% In	35% Out
52	27	5	22	33	21	12
Internal	0	0	0	1	1	0
New	27	5	22	32	20	12

Average Daily Trip Ends (ADT)		
Units	Rate	ADT
52	6.65	346

As shown in Table 10, in the AM peak hour the land use, above the commercial development, are anticipated to generate 27 new trips, with 5 new trips entering the site, and 22 new trips exiting the site. In the PM peak hour the land use is anticipated to generate 33 new trips; with 21 new trips entering the site, and 12 new trips exiting the site. The land use is anticipated to have an Average Daily Trips (ADT) of 346 trips to/from the site per day.

Commercial

For the 13,400 sf (13.4 KSF) retail area of the north area Land Use Code #820, Shopping Center was used to determine the trips generated by the proposed land use. The trips generated by the north commercial development land use are shown in Table 11.

Table 11 - Trip Generation Rates for LUC #820 Shopping Center (North)

Thousand Square Feet KSF (Max)	AM Peak Hour Trips			PM Peak Hour Trips		
	Vol. @ 0.96 Trips/KSF	Directional Distribution		Vol. @ 3.71 Trips/KSF	Directional Distribution	
		62% In	38% Out		48% In	52% Out
13.4	13	8	5	50	24	26
Internal	0	0	0	10	4	6
Driveway	13	8	5	40	20	20
Pass By	-	-	-	14	7	7
New	13	8	5	26	13	13

Average Daily Trip Ends (ADT)		
KSF	Rate	ADT
13.4	42.7	573

PM Pass-by 34%
per ITE Trip Handbook Table 5.6

As shown in Table 11, in the AM peak hour the land use is anticipated to generate 13 new trips, with 8 new trips entering the site, and 5 new trips exiting the site. In the PM peak hour, the land use is anticipated to generate 26 new trips; with 13 new trips entering the site, and 13 new trips exiting the site. The land use is anticipated to have an Average Daily Trips (ADT) of 573 trips to/from the site per day.

For the 9,000 sf (9.0 KSF) retail area of the south area Land Use Code #820, Shopping Center was used to determine the trips generated by the proposed land use. The trips generated by the north commercial development land use are shown in Table 12.

Table 12 - Trip Generation Rates for LUC #820 Shopping Center (South)

Thousand Square Feet KSF (Max)	AM Peak Hour Trips			PM Peak Hour Trips		
	Vol. @ 0.96 Trips/KSF	Directional Distribution		Vol. @ 3.71 Trips/KSF	Directional Distribution	
		62% In	38% Out		48% In	52% Out
9.0	9	6	3	34	16	18

Average Daily Trip Ends (ADT)		
KSF	Rate	ADT
9.0	42.7	385

As shown in Table 12, in the AM peak hour the south land use is anticipated to generate 9 new trips, with 6 new trips entering the site, and 3 new trips exiting the site. In the PM peak hour, the south land use is anticipated to generate 22 new trips; with 10 new trips entering the site, and 12 new trips exiting the site. The south land use is anticipated to have an Average Daily Trips (ADT) of 385 trips to/from the site per day.

For the 4,000 sf (4.0 ksf) Restaurant Land Use Code #931 Quality Restaurant was used to determine the trips generated by the proposed land use. The trips generated by the proposed land use are shown in Table 13.

Table 13 - Trip Generation Rates for LUC #931 Quality Restaurant (South)

Thousand Square Feet KSF (Max)	AM Peak Hour Trips			PM Peak Hour Trips		
	Vol. @ 0.81 Trips/KSF	Directional Distribution		Vol. @ 7.49 Trips/KSF	Directional Distribution	
		50% In	50% Out		67% In	33% Out
4.0	4	2	2	30	20	10

Average Daily Trip Ends (ADT)		
KSF	Rate	ADT
4.0	89.95	360

As shown in Table 13, in the AM peak hour the land use is anticipated to generate 4 new trips, with 2 new trips entering the site, and 2 new trips exiting the site. In the PM peak hour, the land use is anticipated to generate 30new trips; with 20 new trips entering the site, and 10 new trips exiting the site. The land use is anticipated to have an Average Daily Trips (ADT) of 360 trips to/from the site per day.

New Trips

The proposed development new trips generated on the transportation system are shown in the table below.

Table 14 – New Trips Generation Summary

Land Use Code (LUC)	AM Peak Hour Trips			PM Peak Hour Trips		
	Vol. per LUC	Directional Distribution		Vol. per LUC	Directional Distribution	
		In	Out		In	Out
LUC #230 Townhouses (Cottage Style) (Table 6)	23	4	19	28	19	9
LUC #210 Single Family Residential (Table 7)	155	39	116	201	127	74
LUC #210 SFR (Estate Lots) (Table 8)	32	8	24	42	26	16
LUC #220 Apartment (Table 9)	117	23	94	138	90	48
LUC #220 Apartment (mixed use) (Table 10)	27	5	22	32	20	12
LUC #820 Shopping Center (Table 11)	13	8	5	40	20	20
LUC #820 Shopping Center (Table 12)	9	6	3	34	16	18
LUC #931 Quality Restaurant (Table 13)	4	2	2	30	20	10
Total	380	95	285	545	338	207

Average Daily Trip Ends (ADT)		
Land Use Code (LUC)	Rate	ADT
LUC #230 Townhouses (Cottage Style) (Table 6)	-	303
LUC #210 Single Family Residential (Table 7)	-	1,962
LUC #210 SFR (Estate Lots) (Table 8)	-	400
LUC #220 Apartment (Table 9)	-	1,517
LUC #220 Apartment (mixed use) (Table 10)	-	346
LUC #820 Shopping Center (Table 11)	-	573
LUC #820 Shopping Center (Table 12)		385
LUC #931 Quality Restaurant (Table 13)		360
Total	-	5,846

As shown in Table 14, in the AM peak hour the land uses of the project is anticipated to generate 380 new trips, with 95 new trips entering the site, and 285 new trips exiting the site via the eight access opportunities previously noted. In the PM peak hour, the land uses of the project are anticipated to generate 545 new trips; with 338 new trips entering the site, and 207 new trips

exiting the site via the eight access opportunities previously noted. The land uses of the project are anticipated to have an Average Daily Trips (ADT) of 5,846 trips to/from the site per day, via the 9 access opportunities previously noted.

Pass-by Trips

The pass-by trips, as shown on Table 11, is a trip that is currently on the adjacent roadway and turns into the land use as a matter of convenience on the way to their final destination (work/home). The proposed development pass-by trips generated on the transportation system are shown in the table below. Please see the map of pass-by trips on Figure 9.

Table 15 – Pass-by Trips Generation Summary

Land Use Code (LUC)	AM Peak Hour Trips			PM Peak Hour Trips		
	Vol. per LUC	Directional Distribution		Vol. per LUC	Directional Distribution	
		In	Out		In	Out
LUC #820 Shopping Center (Table 11) (north)	-	-	-	14	7	7

As shown in Table 13, in the AM peak hour the commercial development is not anticipated to generate pass-by trips. In the PM peak hour, the commercial development is anticipated to generate 14 pass-by trips; with 7 pass-by trips entering the site, and 7 pass-by trips exiting the site.

Internal Trips

The internal trip is a trip that is generated within the proposed land uses when a vehicle/consumer will stop at more than one place on the site or within the PRD. The internal trip generation was established using the methodology set forth in ITE Trip Generation Handbook Chapter 7. The proposed development internal trip generation on the internal road network between the Single Family Residential, Apartments, and north Commercial land uses are summarized in the table below.

Table 16 – Internal Trips Generation Summary

Land Use Code (LUC)	AM Peak Hour Trips			PM Peak Hour Trips		
	Vol. per LUC	Directional Distribution		Vol. per LUC	Directional Distribution	
		In	Out		In	Out
LUC #210 Single Family Residential (Table 7)	0	0	0	5	3	2
LUC #220 Apartment (Table 9)	0	0	0	4	2	2
LUC #220 Apartment (mixed use) (Table 10)	0	0	0	1	1	
LUC #820 Shopping Center (Table 11) (north)	0	0	0	(10)	(4)	(6)

Table 16, shows that there is no anticipated internal trip in the AM peak hour between land uses. In the PM peak hour Table 16 Shows that the 6 trips out of the shopping center go into the single family and Multi-Family Residential land uses and vice versa that the 4 trips into the shopping center came from the Single and Multi-Family Land uses.

Trip Distribution Characteristics for the Proposed Project

Considering many factors such as the development surrounding the proposed project, the general commuter traffic in the area, the geography in the vicinity of the site, and the existing transportation facilities in the surrounding area, the following distribution from the proposed project applies:

Cottages Style Single Family (Townhouses)
It is anticipated that 100% of the trips will go to/from the north via Madison Road towards 32nd Avenue. At 32nd Avenue, traffic will follow the existing traffic patterns of the intersection, In the AM peak hour from the intersection of 32nd Avenue & Pines Road 57% of the trips will be traveling to/from the east, 29% of the trips will be traveling to/from the north, and 14% of the trips will be traveling to/from the west. Please see Figure 7A in the appendix. In the PM peak hour from the intersection of 32nd Avenue & Pines Road 44% of the trips will be traveling to/from the east, 32% of the trips will be traveling to/from the north, and 24% of the trips will be traveling to/from the west. Please see Figure 8A in the appendix.

Estate Type Single Family
It is anticipated that 50% of the trips will go to/from the north on Madison Road towards 32nd Avenue, and 50% of the trips will go to/from the south on Madison Road towards Thorpe Road, then towards Dishman-Mica Road, where 45% of trips go to/from the north, and 5% of trips go to/from the south. Please see Figures 7B and 8B in the appendix.

> At the intersection of Dishman-Mica Road & Bowdish Road In the AM peak hour 5% will go to/from the north 31% will go to/from the west and 9% will go to/from the south. In the PM peak hour 5% will go to/from the north 38% will go to/from the west and 2% will go to/from the south.
>
> At the intersection of 32nd Avenue & Pines Road In the AM peak hour 9% will go to/from the west, 16% will go to/from the north and 25% will go to/from the east. In the PM peak hour 12% will go to/from the west, 16% will go to/from the north and 22% will go to/from the east.

Single Family Residential
It is anticipated that the trips will be split 50/50 with half of the trips going to Madison Road, and half of the trips going to Dishman-Mica Road where 45% go to/from the north and 5% go to/from the south. Please see Figures 7C and 8C in the appendix.

> At the intersection of Dishman-Mica Road & Bowdish Road In the AM peak hour 5% will go to/from the north 31% will go to/from the west and 9% will go to/from the south. In the PM peak hour 5% will go to/from the north 38% will go to/from the west and 2% will go to/from the south.
>
> At the intersection of 32nd Avenue & Pines Road In the AM peak hour 9% will go to/from the west, 16% will go to/from the north and 25% will go to/from the east. In the

PM peak hour 12% will go to/from the west, 16% will go to/from the north and 22% will go to/from the east.

Apartments - Apartments (Mixed Use) –Land uses Commercial

It is anticipated that 100% of the trips will go to/from Dishman-Mica Road, where 5% of trips go to/from the south, and 5% of trips will go east around to Madison Road and 90% of trips go to/from the north, where in the AM peak hour 11% will go to/from the north 61% will go to/from the west and 18% will go to/from the south. In the PM peak hour 10% will go to/from the north 76% will go to/from the west and 4% will go to/from the south. Beyond this distribution trips will follow existing traffic patterns. For Apartments Please see Figures 7D and 8D in the appendix. For Apartments (Mixed Use) please see Figures 7E and 8E in the appendix. For Commercial Please see Figures 7F and 8F in the appendix.

16TH AVENUE
24TH AVENUE
32ND AVENUE
44TH AVENUE
UNIVERSITY ROAD
BOWDISH ROAD
PINES ROAD
EVERGREEN ROAD
SULLIVAN ROAD
DISHMAN–MICA ROAD
CITY LIMIT
MADISON ROAD
THORPE RD
HIGHWAY 27
65%/62% (IN/OUT)
30%/33% (IN/OUT)
4%/4% (IN/OUT)

VOLUMES = TRIP GENERATION TABLE

NOTE:
TRIP DISTRIBUTION PERCENTAGES SHOWN ON INDIVIDUAL LAND USE TRIP DISTRIBUTION SHEETS 7A THROUGH 7H.

LEGEND:
8%/4% (IN/OUT)
GENERAL DEVELOPMENT DISTRIBUTION

AM PEAK HOUR (NEW TRIPS)			
	TOTAL	IN	OUT
COTTAGE LOTS	23	4	19
SINGLE FAMILY LOTS	155	39	116
SFR ESTATES LOTS	32	8	24
APARTMENTS	117	23	94
APARTMENTS MIXED	27	5	22
SHOPPING CENTER N.	13	8	5
SHOPPING CENTER S.	9	6	3
RESTAURANT	4	2	2
TOTAL	380	95	285

N
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S
NOT TO SCALE

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TRAFFIC IMPACT ANALYSIS
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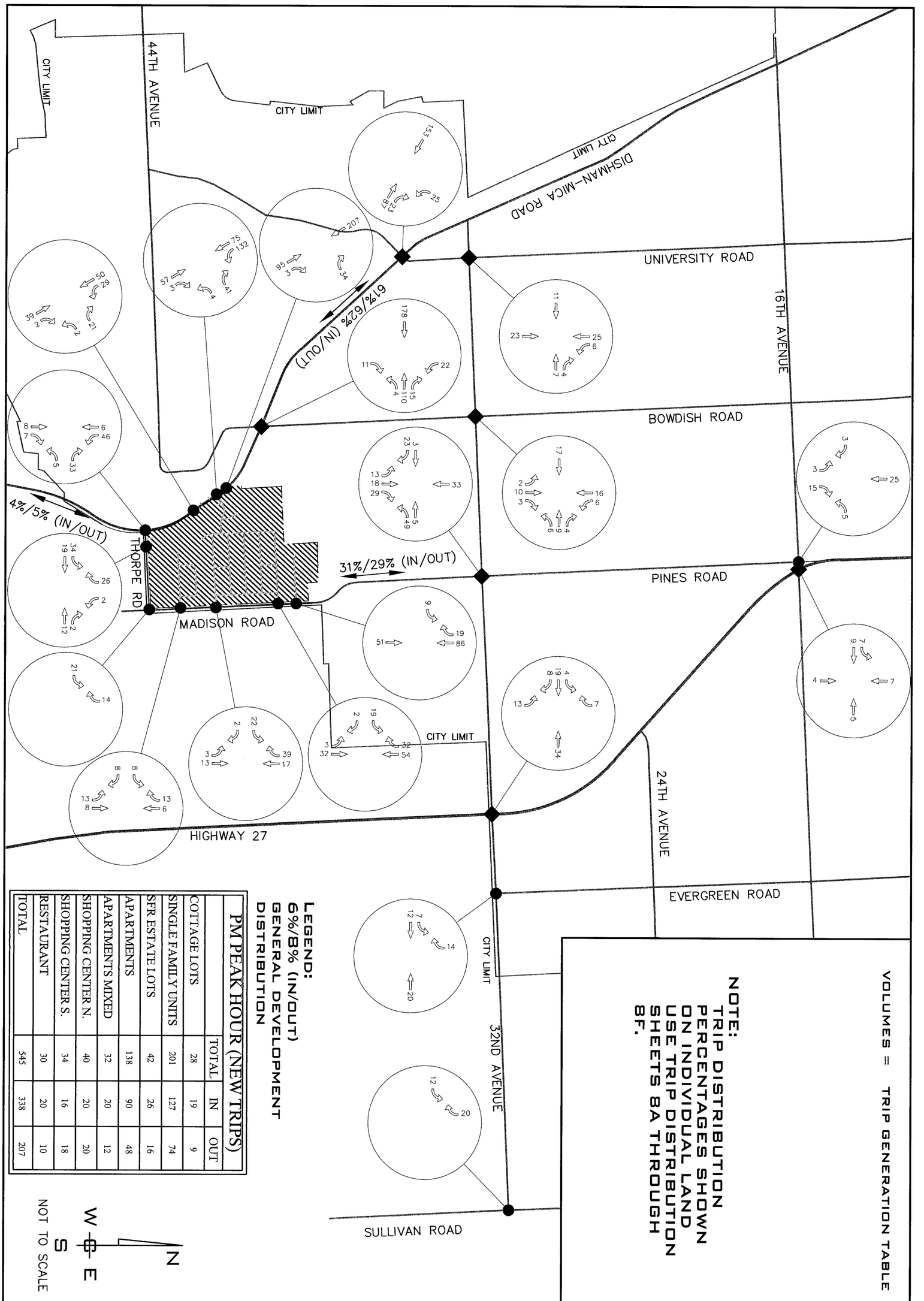
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

AM PEAK HOUR TRIP DISTRIBUTION

FIGURE
7



PM PEAK HOUR (NEW TRIPS)			
	TOTAL	IN	OUT
COTTAGE LOTS	28	19	9
SINGLE FAMILY UNITS	201	127	74
SFR ESTATE LOTS	42	26	16
APARTMENTS	138	90	48
APARTMENTS MIXED	32	20	12
SHOPPING CENTER N.	40	20	20
SHOPPING CENTER S.	34	16	18
RESTAURANT	30	20	10
TOTAL	545	338	207

LEGEND:
6%/8% (IN/OUT)
GENERAL DEVELOPMENT DISTRIBUTION

NOTE:
TRIP DISTRIBUTION PERCENTAGES SHOWN ON INDIVIDUAL LAND USE TRIP DISTRIBUTION SHEETS 8A THROUGH 8F.

VOLUMES = TRIP GENERATION TABLE

NOT TO SCALE

FIGURE 8

TRAFFIC IMPACT ANALYSIS
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PM PEAK HOUR TRIP DISTRIBUTION

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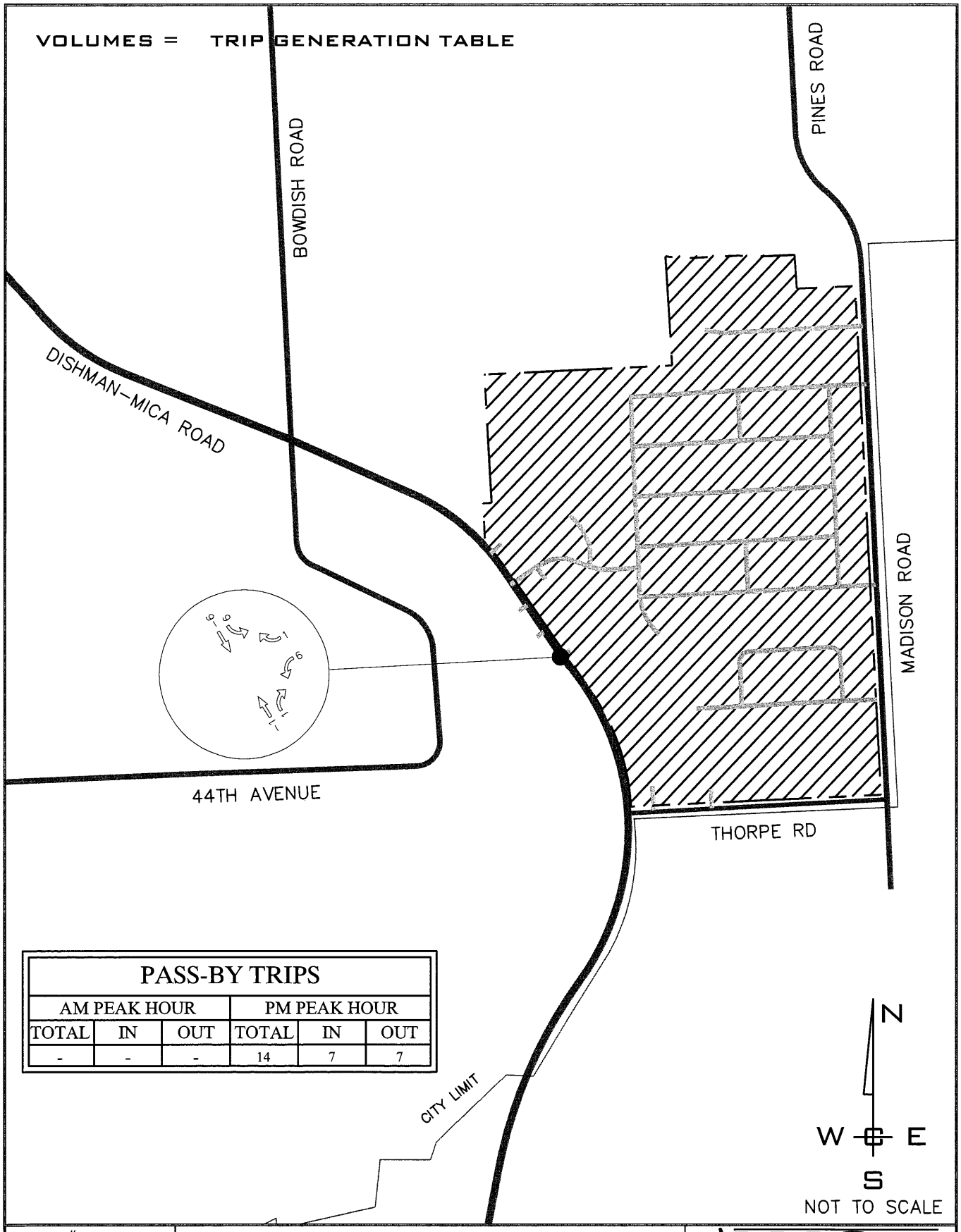

PASS-BY TRIPS					
AM PEAK HOUR			PM PEAK HOUR		
TOTAL	IN	OUT	TOTAL	IN	OUT
-	-	-	14	7	7

PROJ #: 13-1166
DATE: 12/14/15
DRAWN: BNG
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TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD AND THORPE ROAD
SPOKANE VALLEY, WASHINGTON

FIGURE 9

PM PASS-BY TRIPS

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FUTURE YEAR TRAFFIC IMPACT ANALYSIS

Future Year Traffic Impact Analysis

Level of service calculations for the buildout Year (2025) & the buildout year plus 5 years (2030) conditions assumed that the existing traffic volumes as shown on Figures 3 & 4 experience an increase above the year 2015 volumes at the established background rate. Two scenarios were examined for the year 2025 (buildout) analysis, as well as the 2030 buildout year plus 5 years. The first scenario assumes that the development has not moved forward and analyzes the scoped intersections with the background growth rate and the background project trips. The second scenario assumes that the development has moved forward to completion and is builtout. The scenario analyzes the scoped intersections with the background growth rate, the background projects, and the project trips. These scenarios will allow a determination to be made of what the future conditions may be with and without the project.

Year 2025 Buildout without the Project, with the Background Projects

This scenario assumes that the development has not moved forward and the background projects have been completed. The traffic volumes for this condition include the existing traffic, as shown on Figures 3 & 4 multiplied by the background growth rate, plus the traffic from the original background projects as shown on Figures 5 & 6. Please see Figures 10 & 11 for the traffic volumes used for this scenario. A summary of the level of service results are shown in the following table.

Table 17 - Year 2025 Levels of Service, without the Project, with the Background Projects

INTERSECTION		**AM Peak Hour**		**PM Peak Hour**	
(S)ignalized (U)nsignalized		**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**
32nd Ave & University Rd	S	12.2	B	11.9	B
Dishman-Mica Rd & University/Schafer Rd	S	16.4	B	17.2	B
32nd Ave & Bowdish Rd	S	15.2	B	13.5	B
Dishman-Mica Rd & Bowdish Rd	S	12.8	B	11.8	B
Dishman-Mica Rd & Thorpe Rd	U	11.3	B	10.9	B
16th Ave & Pines Rd • Paired Signalized Intersections	U (S)	26.2 (30.5)	D (C)	**66.4** (33.7)	**F** (C)
16th Ave & SR 27 • Paired Signalized Intersections	S	33.6 (42.3)	C (D)	30.3 (28.4)	C (C)
32nd Ave & Pines Rd	S	27.0	C	21.9	C
Madison Rd & Thorpe Rd	U	12.1	B	9.9	A
32nd Ave & SR 27	S	22.3	C	28.2	C
32nd Ave & Evergreen Rd	U	11.2	B	23.6	C
32nd Ave & Sullivan Rd	U	12.0	B	13.2	B

Intersection Level of Service - Deficiency Evaluation

Without the project there is a deficiency identified for intersection level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan, at the intersection of 16th Avenue & Pines Road. The deficiency in LOS can be remedied by Signalizing the intersection and pairing the signal timing with the intersection of 16th Avenue & Highway 27, given their close proximity.

Intersection Movement Queue - Deficiency Evaluation for 2025 Without the Project

The queue deficiencies are identified on Table 17 and described as follows; These deficiencies are solely based upon the Background trips (unmitigated) reported within this report. All noted intersections are anticipated to function at acceptable levels of service.

Year 2015 Existing vs. Year 2025w-o Proj,

16th Avenue & State Route 27

- The EB through approach as reported is expected to go from a queue length of 462 feet to a queue length of 586 feet or an increase of 124 feet. And the reported queue exceeds the available space by 526 feet.
- The WB thru approach as reported is expected to go from a queue length of 262 feet to a queue length of 310 feet or an increase of 48 feet. And the reported queue exceeds the available space by 140 feet.

32nd Avenue & Pines Road

- The EB through approach as reported is expected to go from a queue length of 434 feet to a queue length of 562 feet or an increase of 128 feet. And the reported queue exceeds the available space by 72 feet.

32nd Avenue & State Route 27

- The WB through approach as reported is expected to go from a queue length of 373 feet to a queue length of 470 feet or an increase of 97 feet. And the reported queue exceeds the available space by 305 feet.
- The WB left turn approach as reported is expected to go from a queue length of 191 feet to a queue length of 246 feet or an increase of 55 feet. And the reported queue exceeds the available space by 96 feet.

Table 18 – Year 2025 PM Peak W-O the Project, Intersection Queue Lengths 95th Percentile

INTERSECTION (A)vailable Lane Storage (Q)ueue within the Storage Lane		EB			WB			NB			SB		
		L	T	R	L	T	R	L	T	R	L	T	R
32nd Ave & University Rd	A		345			582		100	400		100	265	
	Q		127			98		29	30		88	38	
Dishman-Mica Rd & University/Schafer Rd	A	150	1,213	1,213	60	1,978		130	280		90	550	550
	Q	32	291	49	56	80		89	64		53	109	0
32nd Ave & Bowdish Rd	A	200	590		200	990			445			280	
	Q	10	403		37	190			111			135	
Dishman-Mica Rd & Bowdish Rd	A	100	863		100	680			360			290	135
	Q	18	187		30	96			106			96	0
Dishman-Mica Rd & Thorpe Rd	A					1,303						700	
	Q					12.5						5	
16th Ave & Pines Rd*	A				60				662			300	
	Q				5				117.5			265	
16th Ave & SR 27*	A		**60**	60		**170**		240	3,708		325	630	
	Q		**586**	27		**310**		60	209		150	234	
32nd Ave & Pines Rd*	A	240	**490**		240	980		130	425		160	700	
	Q	26	**562**		49	327		42	83		48	108	
Madison Rd & Thorpe Rd	A		1,303						400				
	Q		10						2.5				
32nd Ave & SR 27*	A	170	900		**150**	**165**		200	460		265	1,240	
	Q	136	276		**246**	**470**		190	137		97	187	
32nd Ave & Evergreen Rd	A	100									75	315	
	Q	25									30	70	
32nd Ave & Sullivan Rd	A		600										
	Q		55										
A = Available Space (ft) Q = 95th Percentile Queue Length					Apparent Deficiency								

*A graphical exhibit of these Queue lengths are shown on Figures 13A through 13c.

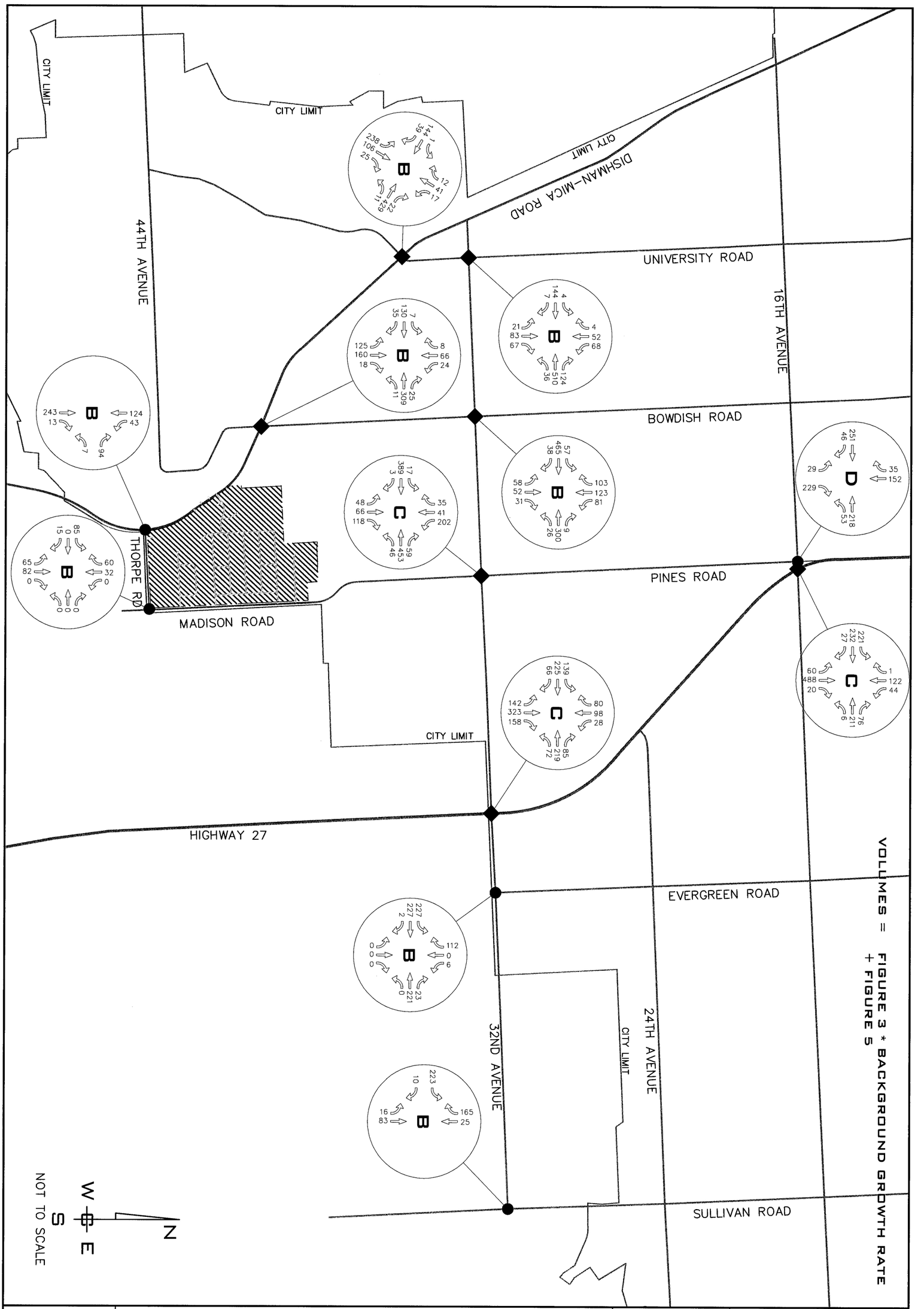

FIGURE 10

TRAFFIC IMPACT ANALYSIS
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2025 AM W/O PROJECT VOLUMES & LOS

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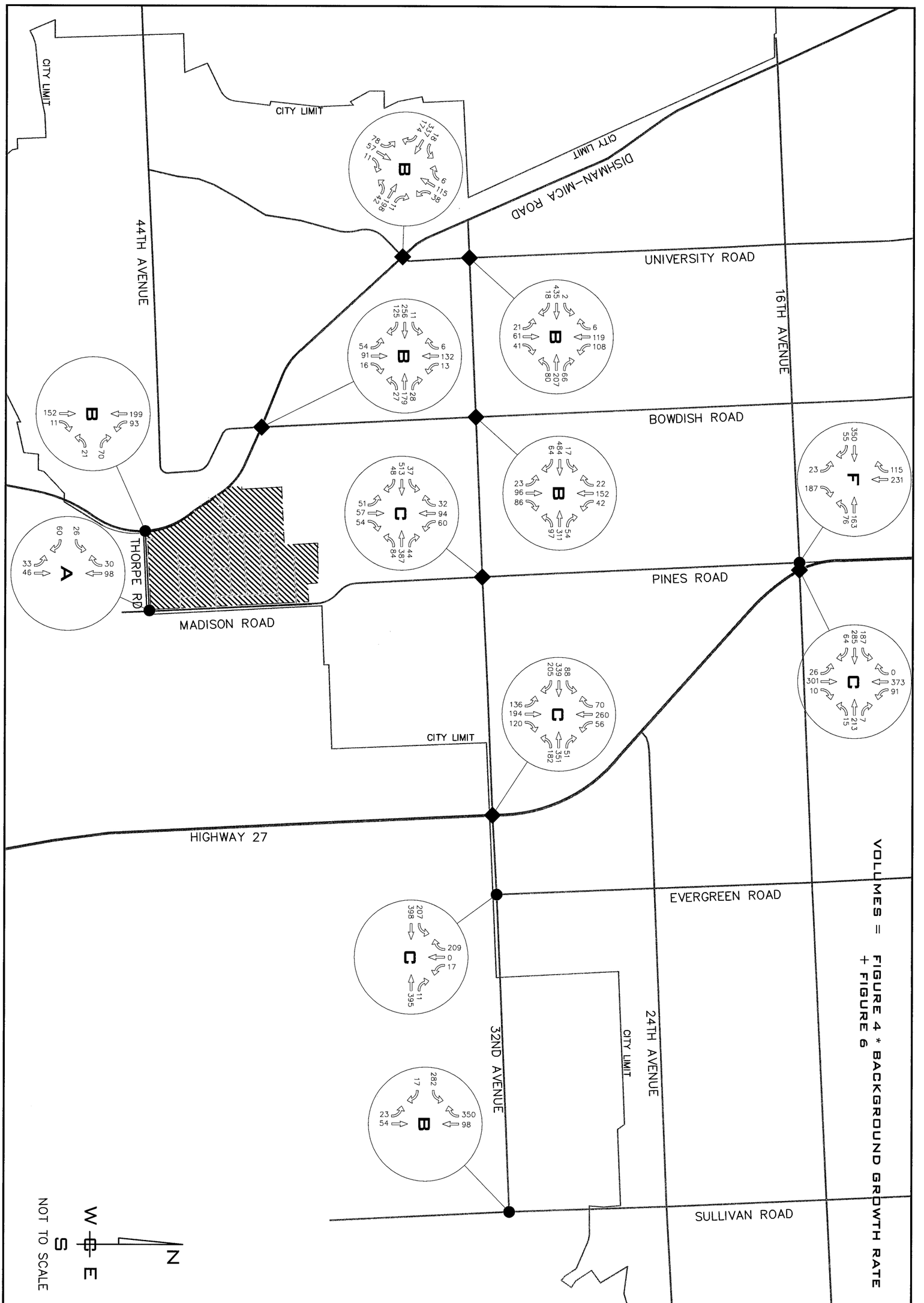

TRAFFIC IMPACT ANALYSIS

PAINTED HILLS PRD

MADISON ROAD & THORPE ROAD

SPOKANE VALLEY, WASHINGTON

2025 PM W/O PROJECT VOLUMES & LOS

FIGURE 11

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Year 2025 with the Project, with the Background Projects

This scenario assumes that the development has moved forward to completion and the background projects have been completed. The traffic volumes for this condition include the traffic volumes, as shown on Figures 10 & 11, plus the project trips as shown on Figures 7 & 8. Please see Figures 12 & 13 for the traffic volumes used for this scenario. A summary of the level of service results are shown in the following table.

Table 19 - Year 2025 Levels of Service, with the Project, with the Background Projects

INTERSECTION	(S)ignalized (U)nsignalized	AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
32nd Ave & University Rd	S	12.4	B	12.4	B
Dishman-Mica Rd & University/Schafer Rd	S	16.9	B	18.3	B
32nd Ave & Bowdish Rd	S	15.6	B	14.7	B
Dishman-Mica Rd & Bowdish Rd	S	15.7	B	13.3	B
Dishman-Mica Rd & Apt. Access	U	13.2	B	10.4	B
Dishman-Mica Rd & Sundown Drive	U	12.6	B	10.8	B
Dishman- Mica Rd & S. Comm. Access	U	11.5	B	11.3	B
Dishman-Mica Rd & Thorpe Rd	U	11.9	B	11.9	B
Thorpe Rd & Comm. Access	U	9.0	A	9.1	A
16th Ave & Pines Rd • Paired Signalized Intersections	U (S)	27.3 (31.1)	D (C)	**99.2** (34.8)	**F** (C)
16th Ave & SR 27 • Paired Signalized Intersections	S	35.9 (44.6)	D (D)	31.3 (28.6)	C (C)
32nd Ave & Pines Rd • NB Right Turn	S	32.3 (27.6)	C (C)	26.0 (24.7)	C (C)
Madison Rd & Painted Hills Ave.	U	11.1	B	10.8	B
Madison Rd & 41st Ave.	U	10.7	B	10.5	B
Madison Rd & 43rd Ave.	U	10.5	B	10.2	B
Madison Rd & 44th Ave.	U	9.7	A	9.6	A
Madison Rd & Thorpe Rd	U	12.4	B	10.4	B
32nd Ave & SR 27	S	23.2	C	29.8	C
32nd Ave & Evergreen Rd	U	11.6	B	26.1	D
32nd Ave & Sullivan Rd	U	12.3	B	13.5	B

Intersection Level of Service - Deficiency Evaluation

With the project there continues to be a deficiency identified for intersection level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan, at the intersection of 16th Avenue & Pines Road. The deficiency in LOS can be remedied by signalizing the intersection and pairing the signal timing with 16th Avenue & Highway 27. We therefore recommend that the project contribute its proportionate share to the signal. The cost of the signal is anticipated at $475,000 - $500,000. the proportionate share should be included in the conditions of approval.

Intersection Movement Queue - Deficiency Evaluation for 2025 with the project

The queue deficiencies are identified on Table 19 and described as follows; These deficiencies are solely based upon the proposed project as documented within this report. All noted intersections are anticipated to function at acceptable levels of service, except for the intersection of 16th Avenue & Pines Road

.

Year 2025 w-o Proj. vs. Year 2025 w- Proj.,
16th Avenue & State Route 27

- The EB through approach as reported is expected to go from a queue length of 586 feet to a queue length of 645 feet or an increase of 59 feet. And the reported queue exceeds the available space by 526 feet.
- The WB thru approach as reported is expected to go from a queue length of 310 feet to a queue length of 319 feet or an increase of 9 feet. And the reported queue exceeds the available space by 149 feet.

32nd Avenue & Pines Road

- The EB through approach as reported is expected to go from a queue length of 562 feet to a queue length of 708 feet or an increase of 146 feet. And the reported queue exceeds the available space by 218 feet.

32nd Avenue & State Route 27

- The WB through approach as reported is expected to go from a queue length of 470 feet to a queue length of 497 feet or an increase of 27 feet. And the reported queue exceeds the available space by 305 feet.
- The WB left turn approach as reported is expected to go from a queue length of 246 feet to a queue length of 238 feet or a decrease of 8 feet. And the reported queue exceeds the available space by 88 feet. (The decrease may be in part to the models adjustment of green time to the EB left turning movement (w/ the added trips), the correlating effect increases the WB left green time.)

Table 20 – Year 2025 PM w- project Intersection Movement Queue Lengths 95th Percentile

INTERSECTION		**EB**			**WB**			**NB**			**SB**		
(A)vailable Lane Storage (Q)ueue within the Storage Lane		**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**
32nd Ave & University Rd	A		345			582		100	400		100	265	
	Q		131			102		29	37		93	45	
Dishman-Mica Rd & University/Schafer Rd	A	150	1,213	1,213	60	1,978		130	280		90	550	550
	Q	31	480	60	54	106		84	67		71	110	0
32nd Ave & Bowdish Rd	A	200	590		200	990			445			280	
	Q	11	444		41	208			122			151	
Dishman-Mica Rd & Bowdish Rd	A	100	863		100	680			360			290	135
	Q	18	367		34	158			111			110	0
Dishman-Mica Rd & Apt. Access	A						100						
	Q						5						
Dishman-Mica Rd & Sundown Dr.	A				150						150		
	Q				5						10		

Table 20 (continued)

INTERSECTION (A)vailable Lane Storage (Q)ueue within the Storage Lane		EB			WB			NB			SB		
		L	T	R	L	T	R	L	T	R	L	T	R
Dishman-Mica Rd & S Comm.						50							
	Q					5							
Dishman-Mica Rd & Thorpe Rd	A					1,303						700	
	Q					20						10	
Thorpe Rd & Comm. Access	A											50	
	Q											2.5	
16th Ave & Pines Rd	A				60				662			300	
	Q				5				272.5			347.5	
16th Ave & SR 27*	A		**60**	60		**170**		240	3,708		325	630	
	Q		**645**	27		**319**		60	213		149	238	
32nd Ave & Pines Rd*	A	240	**490**		240	980		130	425	150	160	700	
	Q	28	**708**		112	358		69	97	6	66	183	
Madison Rd & Painted Hills Ave	A		100					50					
	Q		0					0					
Madison Rd & 41st Ave	A		100					50					
	Q		2.5					0					
Madison Rd & 43rd Ave	A		100					50					
	Q		2.5					0					
Madison Rd & 44th Ave	A		100										
	Q		2.5										
Madison Rd & Thorpe Rd	A		1,303						400				
			15						2.5				
32nd Ave & SR 27*	A	170	900		**150**	**165**		200	460		265	1,240	
	Q	137	281		**238**	**497**		199	140		95	194	
32nd Ave & Evergreen Rd	A	100									75	315	
	Q	27.5									35	82.5	
32nd Ave & Sullivan Rd	A		600										
	Q		57.5										
A = Available Space (ft) Q = 95th Percentile Queue Length					Apparent Deficiency								

*A graphical exhibit of these Queue lengths are shown on Figures 13A through 13c.

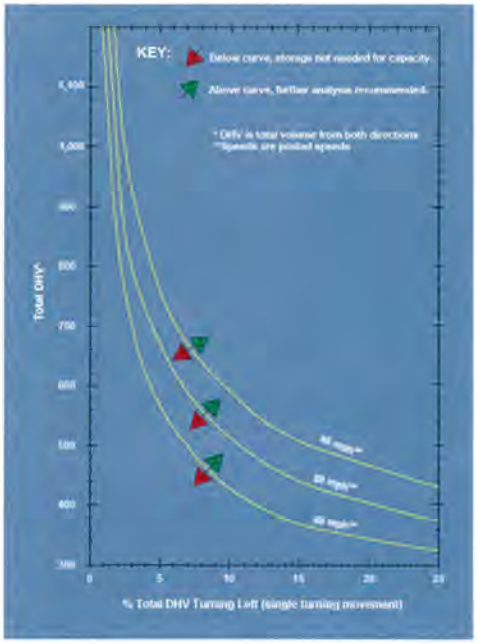
There are no new deficiencies identified with the proposed project, only the extension of known deficiencies.

Left Turn Analysis at Proposed Project Accesses on Dishman-Mica Road, Thorpe Road & Madison Road along Project Frontage

Per the request of the City of Spokane Valley we have analyzed the proposed accesses to determine if a left turn is warranted based upon the WSDOT design manual Exhibit 1310-7a. The results are summarized here and the exhibits are shown in the appendix:

Table 21 - Left Turn Analysis at Proposed Project Accesses.

Intersection:	Results
Dishman-Mica Road & Apt. Access	NA – no left turns allowed (RI-RO)
Dishman-Mica Road & Sundown Drive	Plots above the line and warrants left turn lane
Dishman-Mica Road & N. Comm. Access	Plots below the line
Dishman-Mica Road & S. Comm. Access	Plots below the line
Thorpe Road & Comm. Access	Plots below the line
Madison Road & Painted Hills Avenue	Plots below the line
Madison Road & 41st Avenue	Plots below the line
Madison Road & 43rd Avenue	Plots below the line
Madison Road & 44th Avenue	Plots below the line



Left-Turn Storage Guidelines: Two-Lane, Unsignalized
Exhibit 1310-7a

As shown in the results only the intersection of Dishman-Mica Road & Sundown Drive meets the threshold to consider a left turn storage lane.

Based upon these results and discussions with the developer regarding the developments frontage improvements, we recommend that on Dishman Mica Road a Two-Way-Left-Turn-Lane (TWLTL) be provided to accommodate the proposed access roads and driveways. The TWLTL is proposed to begin north of the Chester Creek Bridge and end before the extension of the project boundary. Additionally, based upon the City of Spokane Valleys classification of Madison Road as a collector we recommend that that the developer includes the widening of Madison Road for a future TWLTL. These recommendations are incorporated with the analysis of the intersections.

Study Area Intersections Left and Right Turn Warrants

Per the request of the City of Spokane Valley a review of directly impacted left & right turn movements of the study intersections was completed for the Year 2025 with the project in the AM and PM peak hours. The left and right turn movements of each intersection were screened using a rule of thumb consideration to identify potential turn lane needs. The rule of thumb is a

movements that exceeded a volume of 300 vehicles for a left turn movement, and 100 vehicles for a right turn movement. This rule of thumb is only used as an indicator, as the decision to install a turn lane is based upon multiple variables including Intersection Level of Service, Signal Timing, Pedestrian needs, and Movement Queue.

Table 21A Turn Analysis at Study Area Intersections

Intersection	AM Peak Hour		PM Peak Hour		Existing Condition	Recommendation
	Mvmt	Trips	Mvmt	Trips		
32nd Ave. & University Rd.	WB Rt SB Lt	132 69	WB Rt SB Lt	70 114	Shared Rt & Thru Turn Lane	None
Dishman-Mica Rd & University/Schafer	WB RT SB Lt	34 25	WB Rt SB Lt	34 18	50' Full Flare Turn Lane	None
32nd Ave & Bowdish	WB Lt WB Rt NB Lt NB Rt SB Lt	29 14 63 37 83	WB Lt WB Rt NB Lt NB Rt SB Lt	103 58 25 89 48	Turn Lane No Turn Lane No Turn lane Slight Flare No Turn lane	None
Dishman-Mica Rd & Bowdish	WB Lt WB Rt NB Rt SB Lt	42 46 30 32	WB Lt WB Rt NB Rt SB Lt	31 43 27 35	Turn Lane No turn lane. Slight Flare No Turn Lane	None
Dishman-Mica Rd & Thorpe Rd	WB Rt NB Rt SB Lt	113 14 55	WB Rt NB Rt SB Lt	103 18 139	Shared Lt & Rt No Turn Lane No Turn Lane	None
16th Ave. & Pines Rd	WB Lt NB Rt	54 256	WB Lt NB Rt	81 202	No Turn Lane Slight Flare	See 2025 W-OProj Recommendation
16th Ave & Hwy 27	EB Lt	237	EB Lt.	194	Shared Lt & Thru	none
32nd Ave. & Pines Rd	EB Rt WB Lt NB Lt NB Rt	8 63 63 168	EB Rt WB Lt NB Lt NB Rt	71 133 64 83	No turn lane. Turn Lane Turn Lane No Turn lane	See Below
Madison & Thorpe	EB Lt SB Rt	91 79	EB Lt SB Rt	47 44	No Turn Lane No Turn Lane	None
32nd Ave. & State Route 27	EB Lt EB Rt NB Lt SB Rt	154 71 145 82	EB Lt EB Rt NB Lt SB Rt	92 213 149 77	Turn Lane Turn Lane Turn Lane 50' Full Flare	None
32nd Ave. & Evergreen Rd	EB Lt SB Rt	244 115	EB Lt SB Rt	214 223	Turn Lane Turn Lane	None
32nd Ave. & Sullivan Rd	EB Lt SB Rt	241 177	EB Lt SB Rt	294 370	Shared Lt & Rt Turn Lane	None

The Intersection of 16th Avenue & Pines Road northbound right turn movement meet the rule of thumb in the Year 2025 with the project, however because of the close proximity of intersections, the signal controls the operation of the northbound approach. So the addition of a right turn lane would still operate as before, rendering any improvement as moot.

The intersection of 32nd Avenue & Pines Road northbound right turn movement meets the rule of thumb and the project anticipates adding trips to the movement. Therefore, considering the installation of a right turn movement; per the intersection level of service analysis the intersection is anticipated to function at Level of Service "C" for both the AM and PM Peak Hours and With and Without the Project. Considering that the PM Peak Hour Queue length would extend 174 feet and the number of conflicting movements we would ask the City of Spokane Valley to consider allowing the project to install a northbound right turn lane at the intersection at the end of the development. The proposed right Turn lane would include the following:

1. Obtain Row from Central Valley School District
2. Provide plans to…
    a. Relocate Signal Cabinet and Power Cabinet
    b. Relocate SE traffic pole and Foundation
    c. Relocate Existing Power Pole, and power supply.
    d. Re Run Wires for all Signal Poles.
    e. Relocate existing storm drainage hooded catch basin
    f. Adjust pedestrian ramps on NE and SE Corners
    g. Provide new channelization striping on 32nd Avenue and Pines Road
    h. Provide new Signage for Right turn lane.
    i. Provide new Sidewalk along proposed Right Turn Lane
3. Relocate Existing Avista Power Poles
    a. Consider the change to intersection Lighting
    b. All lighting must stay out of the operational limits of the overhead power lines.

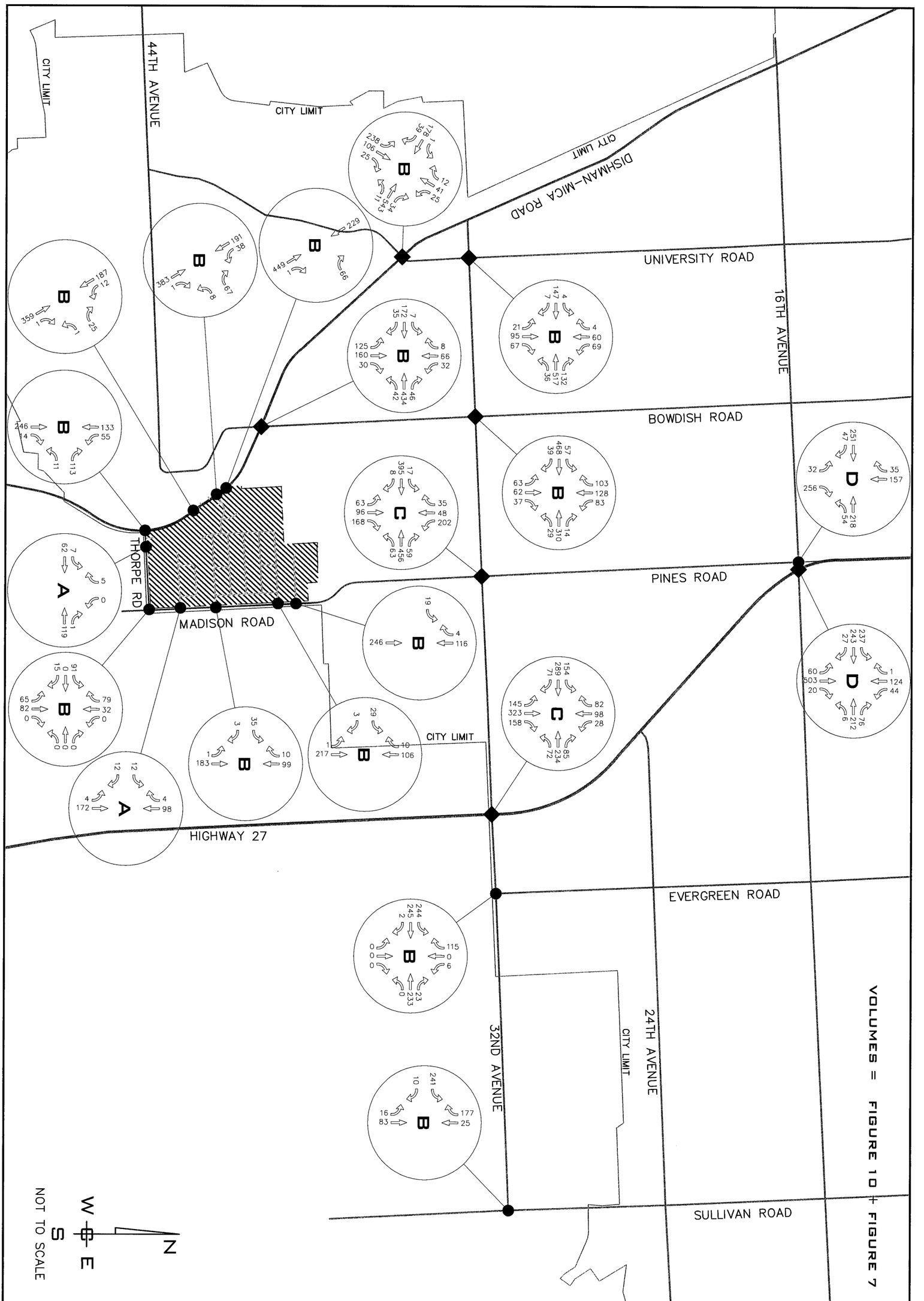


FIGURE 12

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

2025 AM W/ PROJECT VOLUMES & LOS

PROJ #: 13-1166
DATE: 12/14/15
DRAWN: BNG
APPROVED: TRW

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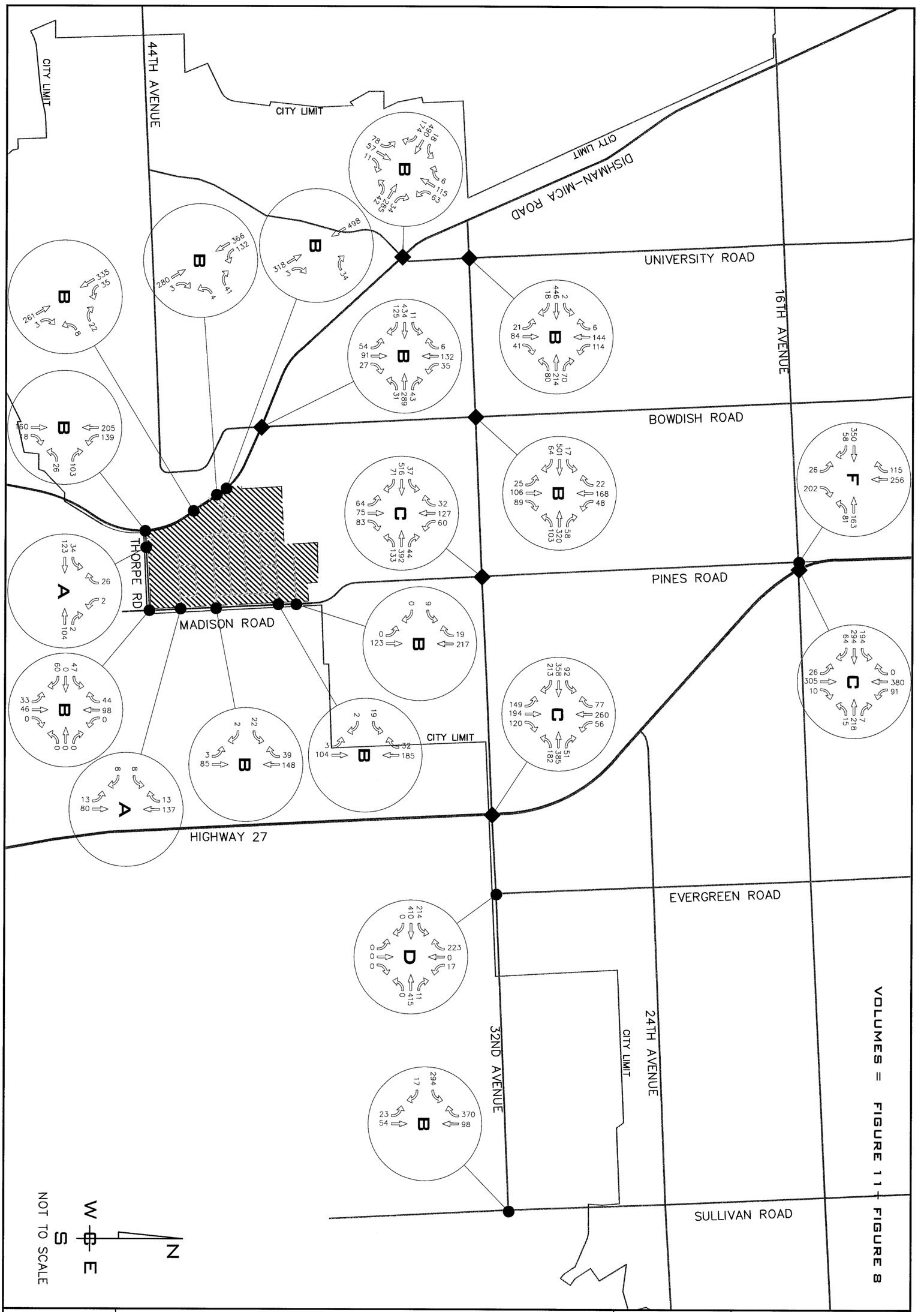

FIGURE 13

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

2025 PM W/ PROJECT VOLUMES & LOS

PROJ #: 13-1166
DATE: 12/14/15
DRAWN: BNG
APPROVED: TRW

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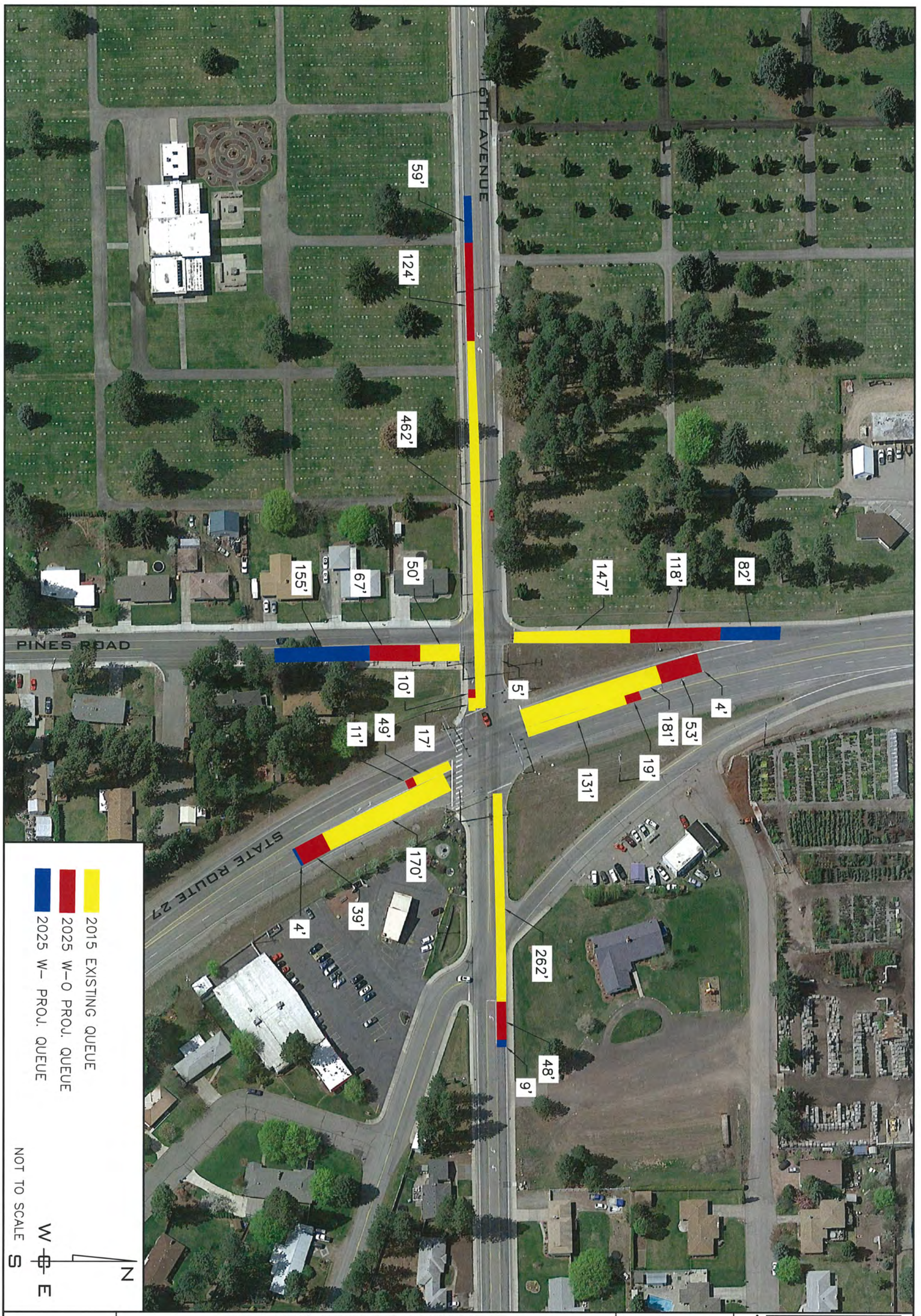

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

QUEUE SUMMARY EXHIBIT

FIGURE 13A

PROJ #: 13-1166
DATE: 12/14/15
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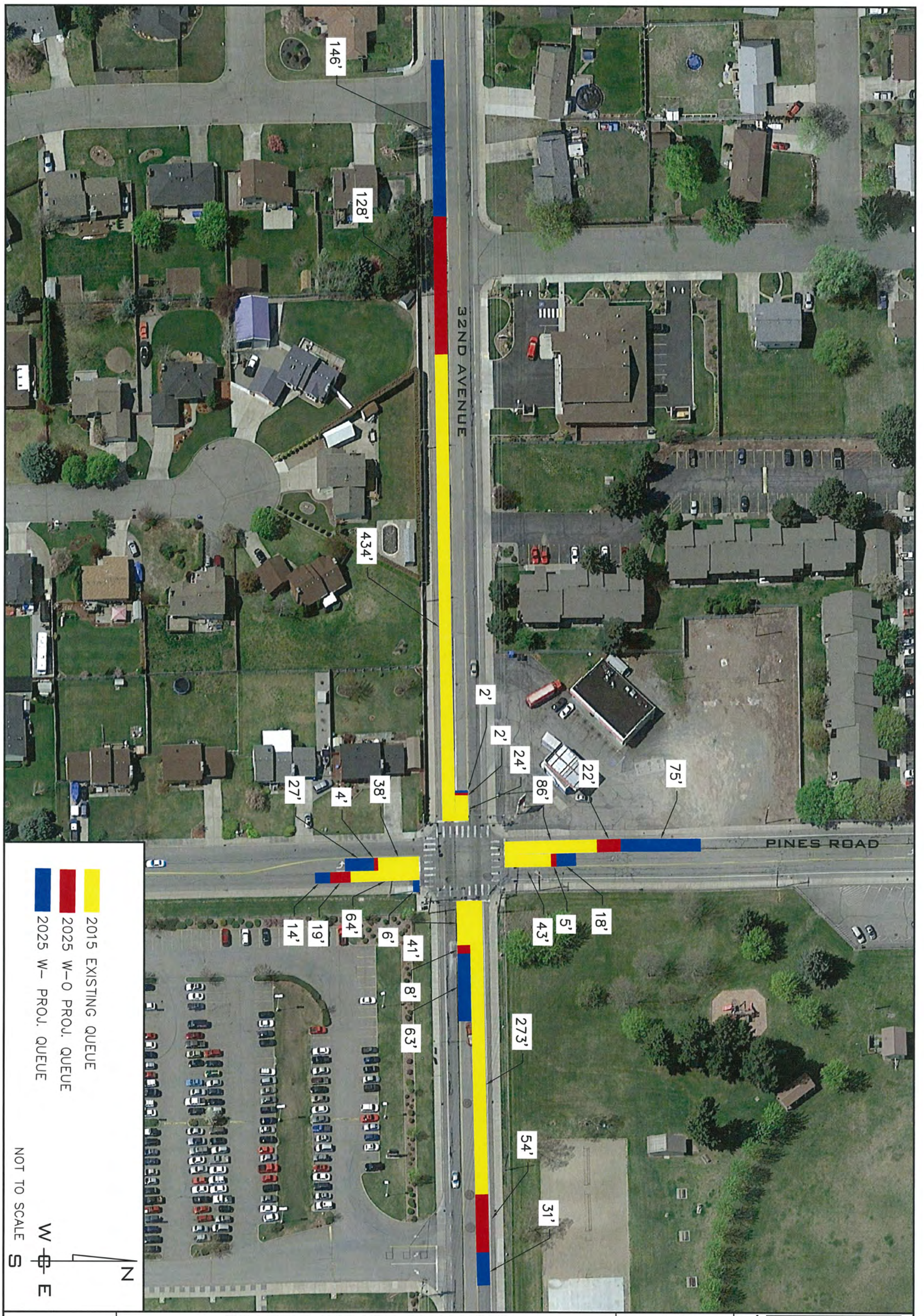

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

QUEUE SUMMARY EXHIBIT

FIGURE 13B

PROJ #: 13-1166
DATE: 12/14/15
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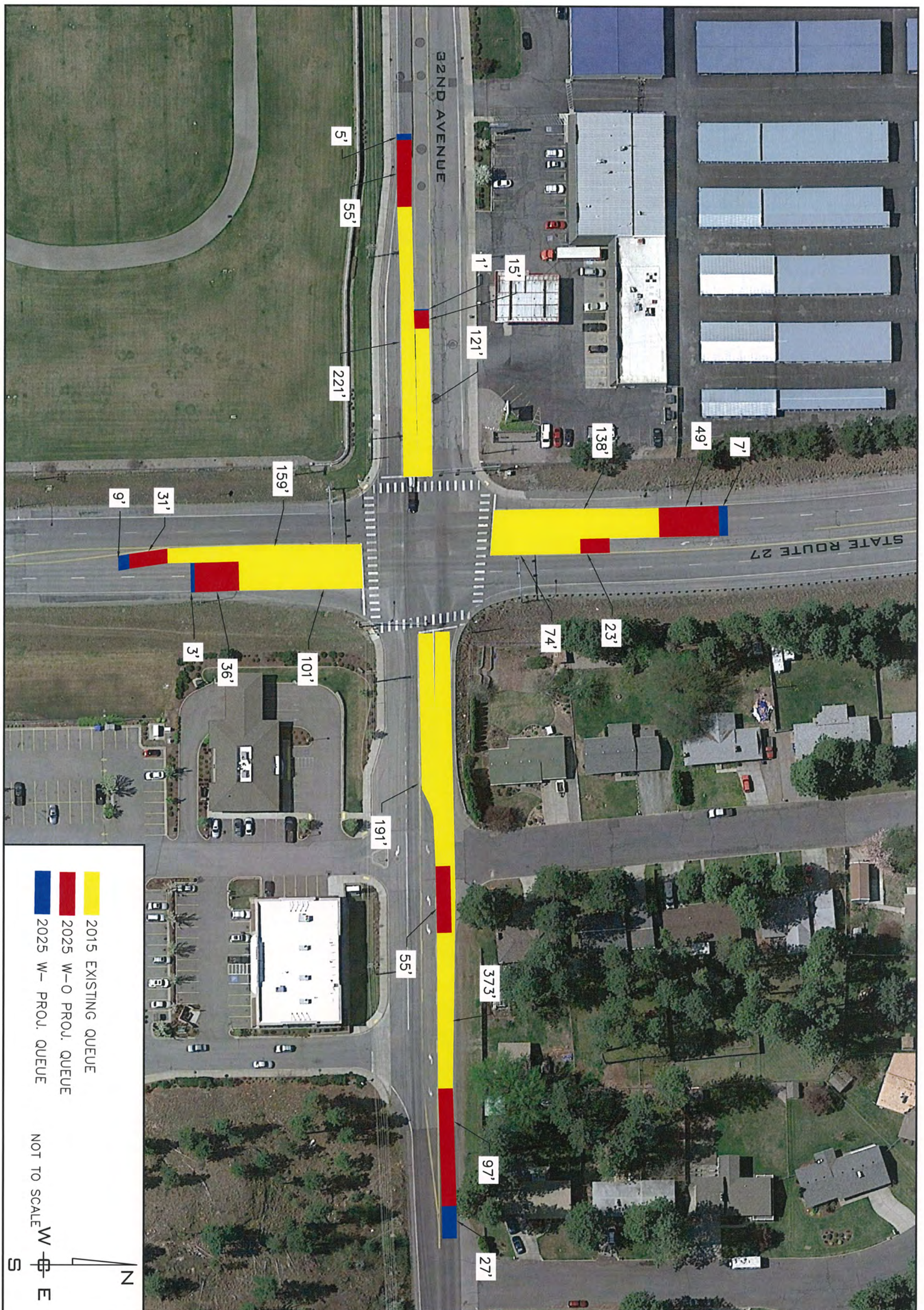

FIGURE 13C

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

QUEUE SUMMARY EXHIBIT

PROJ #: 13-1166
DATE: 12/14/15
DRAWN: BNG
APPROVED: TRW

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Year 2030 Buildout plus 5 years without the Project, with the Background Projects
This scenario assumes that the development has not moved forward, the background projects have been completed and five years have passed. The traffic volumes for this condition include the existing traffic, as shown on Figures 3 & 4 multiplied by the background growth rate, plus the traffic from the original background projects as shown on Figures 5 & 6. Please see Figures 14 & 15 for the traffic volumes used for this scenario. A summary of the level of service results are shown in the following table.

Table 22 - Year 2030 Buildout Plus 5, Levels of Service, without the Project

INTERSECTION	**(S)ignalized (U)nsignalized**	**AM Peak Hour**		**PM Peak Hour**	
		Delay (sec)	**LOS**	**Delay (sec)**	**LOS**
32nd Ave & University Rd	S	12.4	B	12.2	B
Dishman-Mica Rd & University/Schafer Rd	S	16.8	B	17.6	B
32nd Ave & Bowdish Rd	S	16.5	B	14.7	B
Dishman-Mica Rd & Bowdish Rd	S	13.4	B	12.1	B
Dishman-Mica Rd & Thorpe Rd	U	11.6	B	11.2	B
16th Ave & Pines Rd	U	30.8	D	**99.9**	**F**
• Paired Signalized Intersections	(S)	(30.8)	(C)	(35.2)	(D)
16th Ave & SR 27	S	37.4	D	32.8	C
• Paired Signalized Intersections		(46.7)	(D)	(28.7)	(C)
32nd Ave & Pines Rd	S	28.8	C	24.6	C
Madison Rd & Thorpe Rd	U	12.4	B	10.1	B
32nd Ave & SR 27	S	23.4	C	30.0	C
32nd Ave & Evergreen Rd	U	11.5	B	27.1	D
32nd Ave & Sullivan Rd	U	12.3	B	13.9	B

Intersection Level of Service - Deficiency Evaluation

Without the project there is a deficiency identified for intersection level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan, at the intersection of 16th Avenue & Pines Road. The deficiency in LOS can be remedied by signalizing the intersection and pairing the signal timing with 16th Avenue & Highway 27.

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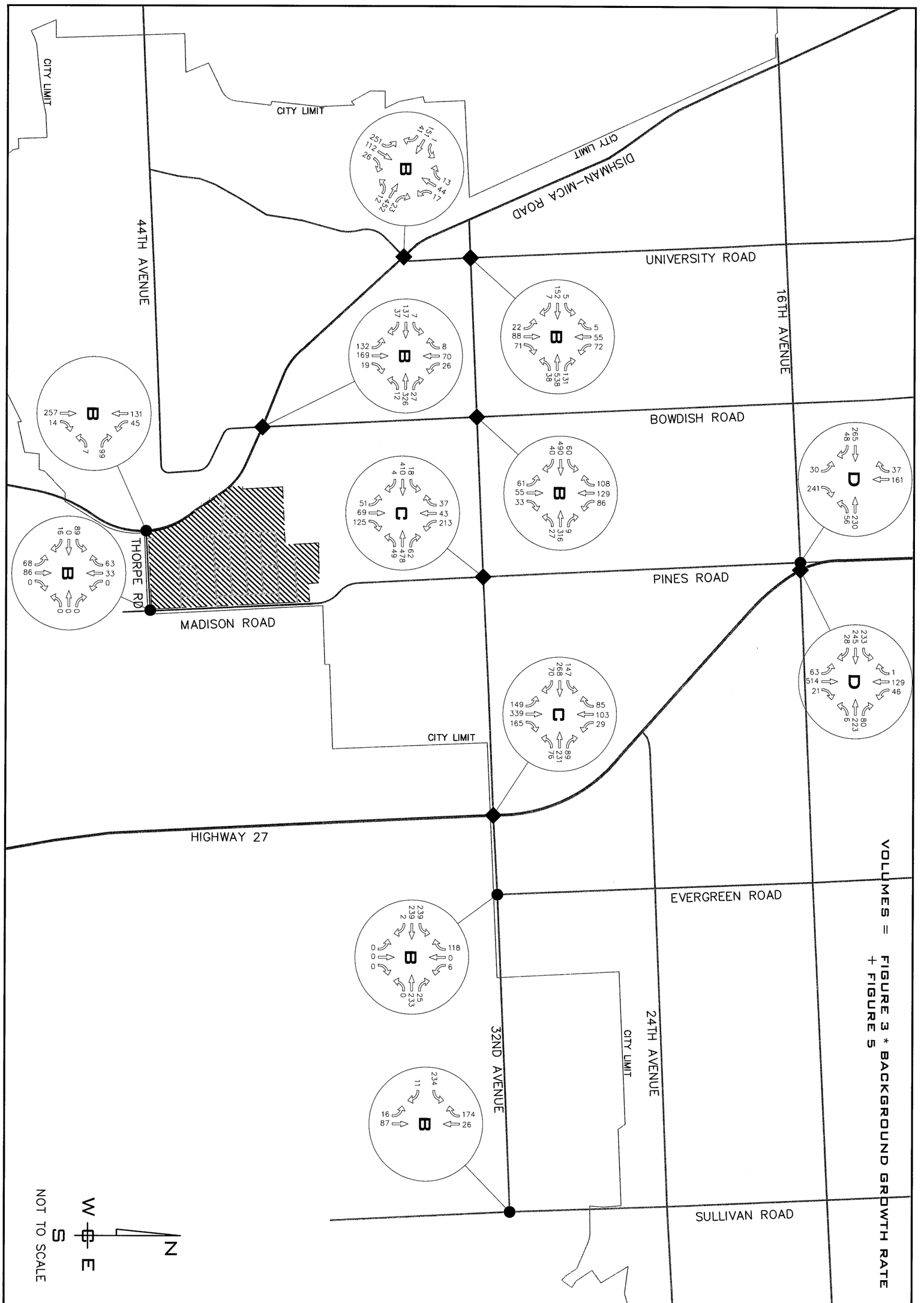

FIGURE 14

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

2030 AM W/O PROJECT VOLUMES & LOS

PROJ #: 13-1166
DATE: 12/14/15
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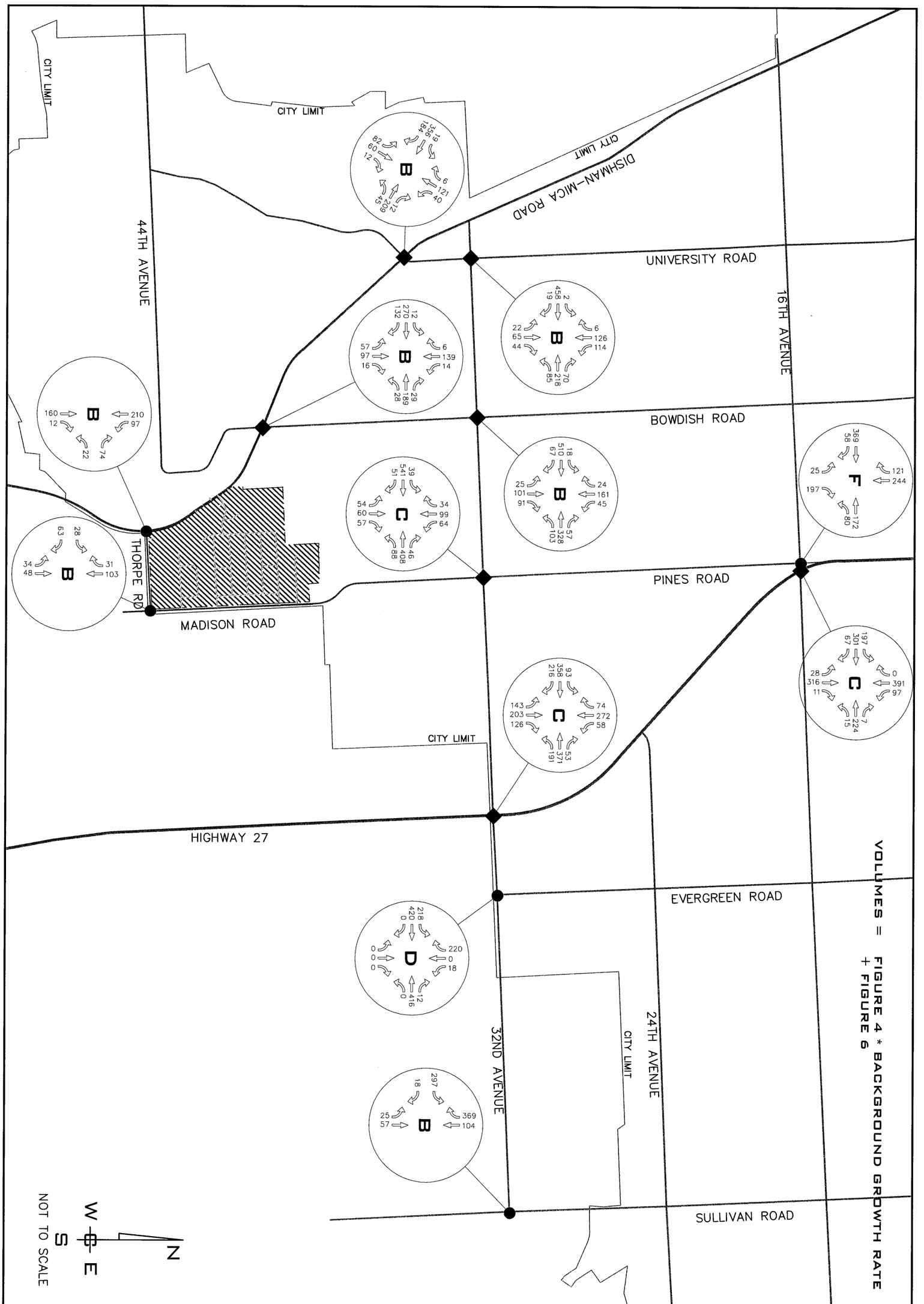

FIGURE 15

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

2030 PM W/O PROJECT VOLUMES & LOS

PROJ #: 13-1166
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Year 2030 Buildout Plus 5 Years with the Project, with the Background Projects

This scenario assumes that the development has moved forward to completion and the background projects have been completed and five years have passed. The traffic volumes for this condition include the existing traffic, as shown on Figures 14 & 15, plus the project trips as shown on Figures 7 & 8. Please see Figures 16 & 17 for the traffic volumes used for this scenario. A summary of the level of service results are shown in the following table.

Table 23- Year 2030 Buildout Plus 5 Levels of Service, with the Project

INTERSECTION	(S)ignalized (U)nsignalized	AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
32nd Ave & University Rd	S	12.7	B	12.8	B
Dishman-Mica Rd & University/Schafer Rd	S	17.3	B	18.9	B
32nd Ave & Bowdish Rd	S	16.9	B	16.0	B
Dishman-Mica Rd & Bowdish Rd	S	16.9	B	14.0	B
Dishman-Mica Rd & Apt. Access	U	13.4	B	10.5	B
Dishman-Mica Rd & Sundown Drive	U	12.9	B	10.9	B
Dishman- Mica Rd & S. Comm. Access	U	11.6	B	11.5	B
Dishman-Mica Rd & Thorpe Rd	U	12.2	B	12.2	B
Thorpe Rd & Comm. Access	U	9.1	A	9.1	A
16th Ave & Pines Rd • Paired Signalized Intersections	U (S)	32.3 (31.4)	D (C)	**141.2** (36.7)	**F** (D)
16th Ave & SR 27 • Paired Signalized Intersections	S	40.7 (49.3)	D (D)	34.3 (29.0)	C (C)
32nd Ave & Pines Rd • NB Right Turn lane	S	34.9 29.2	C (C)	26.9 27.1	C (C)
Madison Rd & Painted Hills Ave.	U	11.2	B	10.9	B
Madison Rd & 41st Ave.	U	10.8	B	10.6	B
Madison Rd & 43rd Ave.	U	10.6	B	10.2	B
Madison Rd & 44th Ave.	U	9.7	A	9.8	A
Madison Rd & Thorpe Rd	U	12.8	B	10.6	B
32nd Ave & SR 27	S	24.3	C	31.9	C
32nd Ave & Evergreen Rd	U	11.8	B	30.3	D
32nd Ave & Sullivan Rd	U	12.6	B	14.2	B

Intersection Level of Service - Deficiency Evaluation

With the project there continues to be a deficiency identified for intersection level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan, at the intersection of 16th Avenue & Pines Road. The deficiency in LOS can be remedied by signalizing the intersection and pairing the signal timing with 16th Avenue & Highway 27.

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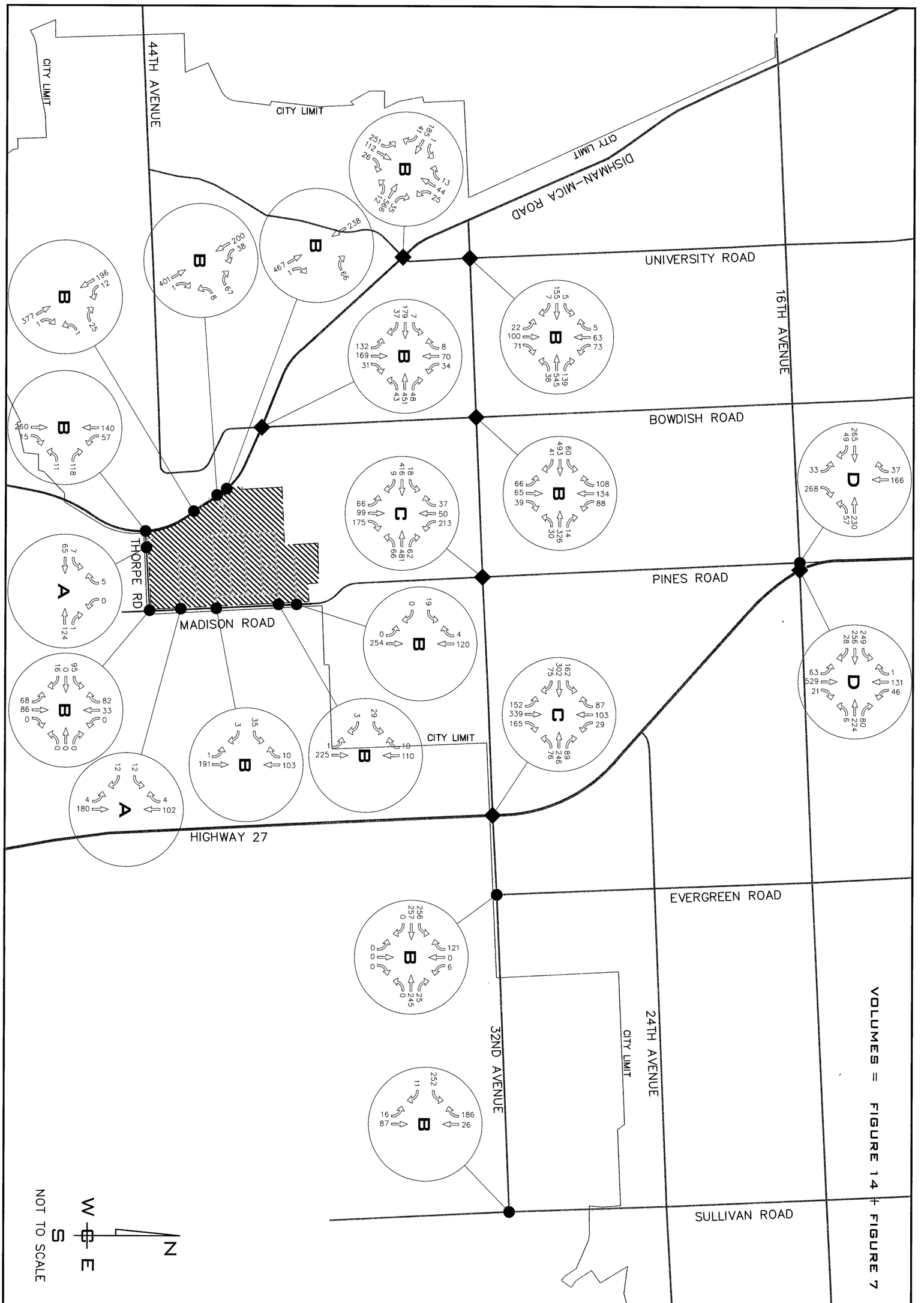

FIGURE 16

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

2030 AM W/ PROJECT VOLUMES & LOS

PROJ #: 13-1166
DATE: 12/14/15
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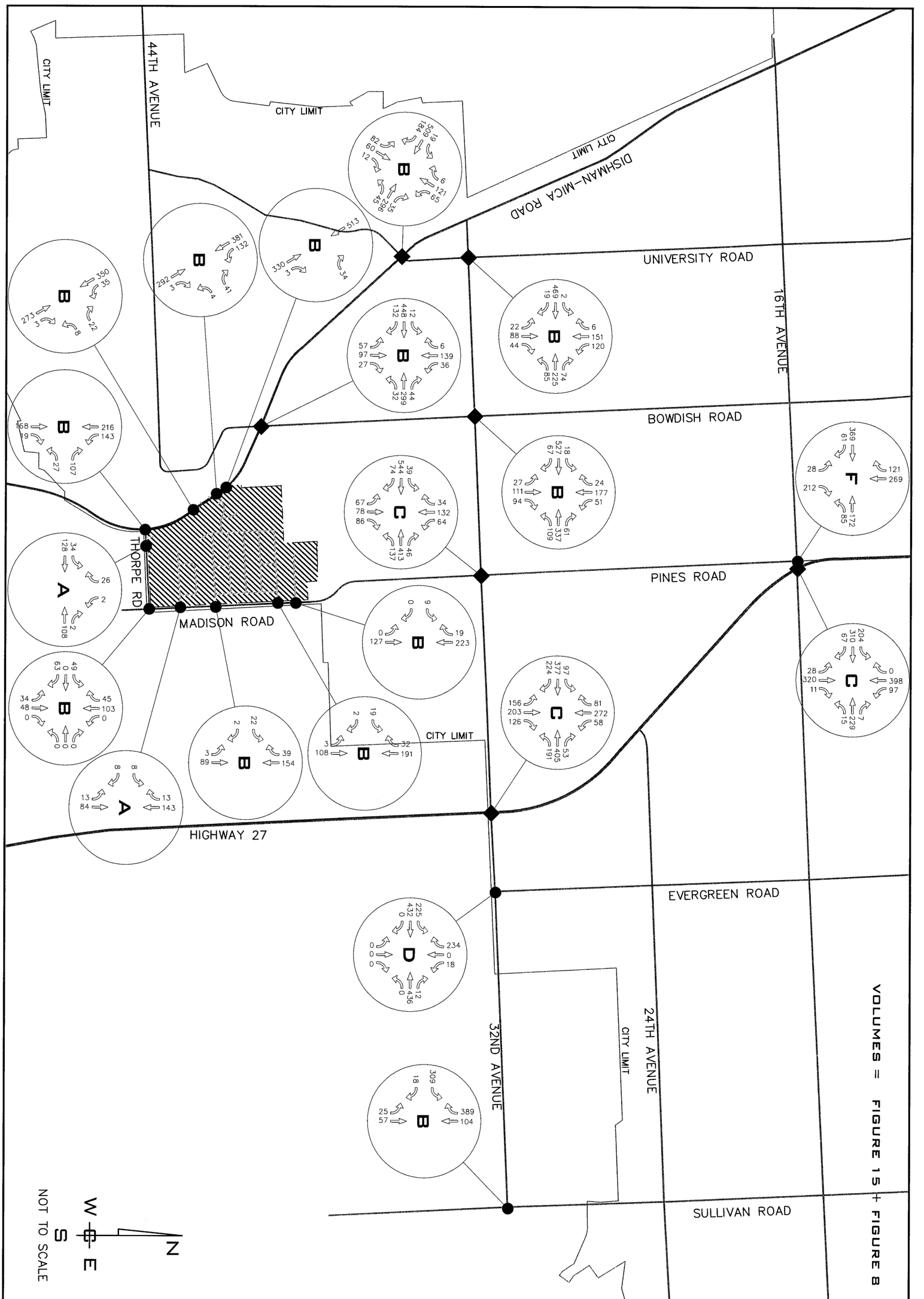

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

2030 PM W/ PROJECT VOLUMES & LOS

FIGURE 17

PROJ #: 13-1166
DATE: 12/14/15
DRAWN: BNG
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Conclusions

Based upon the analysis, field observations, assumptions, methodologies and results which are provided in the body of this report, it is concluded that the development of the proposed project will generate new trips on the existing transportation system and that those trips while affecting level of service will generally not degrade LOS below concurrency levels, except at the intersection of 16th Avenue & Pines Road. Additionally, the queue deficiencies identified, carry through the scenarios from the existing condition to the future conditions, and the project only adds to an already existing condition. This conclusion was reached and has been documented within the body of this report.

Existing Condition

- There are no Level of Service deficiencies identified for level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan.
- There are four queue deficiencies identified at two of the scoped intersections that have acceptable levels of service, there is no public improvement project identified to mitigate these discrepancies.
    - 16th Avenue & State Route 27, EB Thru, WB Thru
    - 32nd Avenue & State Route 27, WB left, WB Thru

Left Turn lanes on Dishman Mica Road, Thorpe Road, and Madison Road

- The intersection of Dishman-Mica Road & Sundown Drive warrants a southbound left turn lane
- Based upon the results and discussions with the developer Dishman-Mica Road & Madison are proposed to include a TWLTL for the project accesses.

Study Area Intersections Left and Right Turn Warrants

The Intersection of 16th Avenue & Pines Road northbound right turn movement meet the rule of thumb in the Year 2025 With the project, however because of the close proximity of intersections, the signal controls the operation of the northbound approach. So the addition of a right turn lane would still operate as before, rendering any improvement as moot.

The intersection of 32nd Avenue & Pines Road northbound right turn movement meets the rule of thumb and the project anticipates adding trips to the movement. Therefore a northbound right turn lane will be considered.

Year 2025, Buildout, without project, with background projects

- There is a Level of Service deficiency identified at the intersection of 16th Avenue & Pines Road, for level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan. The deficiency in LOS can be remedied by signalizing the intersection and pairing the signal timing with 16th Avenue & Highway 27.
- There are five queue deficiencies identified at three intersections. These deficiencies were identified as the result of the background growth rate and the background projects as identified at scoping. There is no public improvement project identified to mitigate these discrepancies. Please see the analysis for the details of the found discrepancies.
    - 16th Avenue & State Route 27, EB Thru, WB Thru
    - 32nd Avenue & Pines Road, EB Thru
    - 32nd Avenue & State Route 27, WB Thru, WB Left Turn

Year 2025, Buildout, with project, with background projects

- There is a Level of Service deficiency identified at the intersection of 16th Avenue & Pines Road, for level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan.
- The Level of Service deficiency identified at the intersection of 16th Avenue & Pines Road, originally caused by the background trips and worsened by this project, can be brought back to an acceptable level of service by signalizing the intersection and pairing the signal timing with 16th Avenue & Highway 27.
- These are the same five queue deficiencies previously identified at three intersections with two of those intersections operating at acceptable levels of service. These deficiencies were the result of the background growth rate and the background projects as identified within this study and are only incrementally worsened or kept the same by this project. There is no public improvement project identified to mitigate these discrepancies. Please see the analysis for the details of the found discrepancies.
    - 16th Avenue & State Route 27, EB Thru, WB Thru
    - 32nd Avenue & Pines Road, EB Thru
    - 32nd Avenue & State Route 27, WB Thru, WB Left Turn

Year 2030, Buildout Plus 5 Years, without project, with background projects

- There is a Level of Service deficiency identified at the intersection of 16th Avenue & Pines Road, for level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan. The deficiency in LOS can be remedied by signalizing the intersection and pairing the signal timing with 16th Avenue & Highway 27.
- There are five queue deficiencies identified at three intersections. These deficiencies were identified as the result of the background growth rate and the background projects as identified at scoping. There is no public improvement project identified to mitigate these discrepancies. Please see the analysis for the details of the found discrepancies.

- 16th Avenue & State Route 27, EB Thru, WB Thru
- 32nd Avenue & Pines Road, EB Thru
- 32nd Avenue & State Route 27, WB Thru, WB Left Turn

Year 2030, Buildout Plus 5 Years, with project, with background projects

- There is a Level of Service deficiency identified at the intersection of 16th Avenue & Pines Road, for level of service as described in Chapter 3 of the Spokane Valley Street Standards, and the Level of Service Table 4.3 of the City of Spokane Valley Comprehensive Plan.
- The Level of Service deficiency identified at the intersection of 16th Avenue & Pines Road, originally caused by the background trips and worsened by this project, can be brought back to an acceptable level of service by signalizing the intersection and pairing the signal timing with 16th Avenue & Highway 27.
- There are the same five queue deficiencies previously identified at three intersections with two of those intersections operating at acceptable levels of service. These deficiencies were the result of the background growth rate and the background projects as identified within this study and are only incrementally worsened or kept the same by this project. There is no public improvement project identified to mitigate these discrepancies. Please see the analysis for the details of the found discrepancies.
  - 16th Avenue & State Route 27, EB Thru, WB Thru
  - 32nd Avenue & Pines Road, EB Thru
  - 32nd Avenue & State Route 27, WB Thru, WB Left Turn

Recommendations

Based upon the conclusions within this study the proposed project is recommended to provide the following;

- frontage improvements to Dishman-Mica Road, Thorpe Road, and Madison Road per the City of Spokane Valley development process
- A two-way-left-turn-lane north of the Chester Creek Bridge to the property boundary with appropriate taper.
- Bicycle and pedestrian facilities per the City of Spokane Valley Bicycle and Pedestrian Master Plan along the site frontage.
- a northbound right turn lane be considered at the intersection of 32nd Avenue & Pines Road. Coordination with the City of Spokane Valley and the Central Valley School District will be required.
- We also recommend that the development contribute a proportionate share of the cost of the proposed signal at the intersection of 16th Avenue & Pines Road.

TECHNICAL APPENDIX

LEVEL OF SERVICE METHODS AND CRITERIA

Unsignalized Intersection
Level of Service Criteria

Level of Service	Delay Range (sec)	Expected Delay to Minor Street Traffic
A	≤ 10	Little to No Delay
B	> 10 and ≤ 15	Short Traffic Delays
C	>15 and ≤ 25	Average Traffic Delays
D	>25 and ≤ 35	Long Traffic Delays
E	> 35 and ≤ 50	Very Long Traffic Delays
F	> 50	Stop-and-Go Condition Delays Generally Longer than Acceptable

Unsignalized Intersections
Level of Service Descriptions

LOS	General Description
A	• Nearly all drivers find freedom of operation. • Very seldom is there more than one vehicle in the queue.
B	• Some drivers begin to consider the delay an inconvenience • Occasionally there is more than one vehicle in the queue.
C	• Many times there is more than one vehicle in the queue. • Most drivers feel restricted, but not objectionably so.
D	• Often there is more than one vehicle in the queue. • Drivers feel quite restricted.
E	• Represents conditions in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. • There is almost always more than one vehicle in the queue. • Drivers find the delays approaching intolerable levels.
F	• Forced flow. • Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection

Signalized Intersection
Level of Service Criteria

Level of Service	Delay Range (sec)
A	≤ 10
B	> 10 and ≤ 20
C	>20 and ≤ 35
D	>35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Signalized Intersections
Level of Service Descriptions

LOS	General Description
A	• Very low delay at intersection. • All signal cycles clear. • No vehicles wait through more than one signal cycle.
B	• Operating speeds beginning to be affected by other traffic. • Short traffic delays at intersections. • Higher average intersections delays resulting from more vehicles stopping.
C	• Operating speeds and maneuverability closely controlled by other traffic. • Higher delays at intersections than for LOS B due to a significant number of vehicles stopping. • Not all signal cycles clear the waiting vehicles.
D	• Tolerable operating speeds, but long traffic delays occur at intersections • The influence of congestion is noticeable. • Many vehicles stop and the proportion of vehicles not stopping declines. • The number of signal cycle failures, for which vehicles must wait through more than one signal cycle are noticeable.
E	• Speeds are restricted, very long traffic delays are experienced and traffic volumes are near capacity. • Traffic flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate. • Traffic signal cycle failures are frequent occurrences.
F	• Extreme delays resulting in long queues which may interfere with other traffic movements • Stoppages of long duration and speeds may drop to zero. • There may be frequent signal failures. • Vehicle arrival rates are greater than capacity. • Considered unacceptable by most drivers.

ACCIDENT DATA

JURISDICTION	PRIMARY TRAFFICWAY	INTERSECTING TRAFFICWAY	DIST FROM REF POINT	MI or FT	REFERENCE POINT NAME	REPORT NUMBER	DATE	MOST SEVERE SOBRIETY TYPE	MOST SEVERE INJURY TYPE	FIRST COLLISION TYPE	FIRST OBJECT STRUCK	SECOND COLLISION TYPE	SECOND OBJECT STRUCK	# FATALITIES	TOTAL # INJURIES	# VEHICLES	# PEDESTRIANS	# PEDALCYCLISTS	JUNCTION RELATIONSHIP	WEATHER	ROADWAY CHARACTERISTIC	ROADWAY SURFACE CONDITIONS
16th Avenue & Pines Road																						
City Street	16	PINES				2900389	4/10/2013	Had NOT B	Possible Inj	Entering at angle				0	1	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	E 16TH AVI	S PINES RD				E242266	5/5/2013	Had NOT B	Evident Inj	Entering at angle		Fixed objec	Retaining V	0	3	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	E 16TH AVI	S PINES RD				2908876	12/31/2012	Had NOT B	No Injury	Entering at angle				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	E 16TH AVI	S PINES RD				E138193	11/21/2011	Had NOT B	No Injury	Entering at angle				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Wet
City Street	E 16TH AVI	S PINES RD				E095353	3/7/2011	Had NOT B	No Injury	Entering at angle				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	E 16TH AVI	S PINES RD				E092870	2/22/2011	Had NOT B	No Injury	Entering at angle				0	0	2	0	0	At Intersec	Overcast	Straight & l	Wet
City Street	S PINES RD	E 16TH AVE				3471561	8/13/2013	Had NOT B	No Injury	From same direction - both going straight - on				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	S PINES RD	E 16TH AVE				E236753	4/5/2013	Had NOT B	No Injury	Entering at angle				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	S PINES RD	E 16TH AVE				E213887	12/15/2012	HBD - Abili	No Injury	Fixed objec	Retaining Wall (concrete, rock, bri			0	0	1	0	0	At Intersec	Clear or Pa	Straight & l	Wet
City Street	S PINES RD	E 16TH AVE				2450642	7/3/2012	Had NOT B	Serious Inj	Vehicle turning right hits pedestrian				0	1	1	1	0	At Intersec	Overcast	Straight & l	Dry
City Street	S PINES RD	E 16TH AVE				E161046	3/25/2012	Had NOT B	Possible Inj	Entering at angle				0	1	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	S PINES RD	E 16 AVE				E122427	8/28/2011	Had NOT B	No Injury	Entering at angle				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry

PDO / INJ: 2011: 4 / — ; 2012: 2 / 2 ; 2013: 3 / 1 ; [12]

16th Avenue & SR 27																						
State Route	27					3357859	6/1/2013	HBD - Abili	No Injury	Entering at angle				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
State Route	27					E180273	7/6/2012	Had NOT B	Possible Inj	Entering at angle		From same direction -		0	1	3	0	0	At Intersec	Clear or Pa	Straight & l	Dry
State Route	27					E170726	5/16/2012	Had NOT B	Possible Inj	Entering at angle				0	1	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
State Route	27					E153399	2/7/2012	Had NOT B	No Injury	From same direction - both going straight - on				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Wet
State Route	27					E129934	10/3/2011	Had NOT B	Evident Inj	Entering at angle				0	1	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
State Route	27					2909115	6/28/2011	Had NOT B	No Injury	From same direction - both going straight - on				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry

PDO / INJ: 2011: 1 / 1 ; 2012: 1 / 2 ; 2013: 1 / — ; [6]

32nd Avenue & Pines Road																						
City Street	E 32ND AVE	88	F	S PINES RD		E289399	11/26/2013	Had NOT B	No Injury	From same direction - both going straight - on				0	0	2	0	0	Intersectio	Clear or Pa	Straight & l	Dry
City Street	E 32ND AV	S PINES RD				2901253	1/1/2011	Had NOT B	No Injury	From same direction - both going straight - on				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Ice
City Street	E 32ND AV	S PINES RD				E205151	11/10/2012	HBD - Abili	No Injury	From opposite direction - one left turn - one s				0	0	2	0	0	At Drivewa	Clear or Pa	Straight & l	Dry
City Street	E 32ND AV	S PINES RD				3471886	11/9/2012	Had NOT B	No Injury	From opposite direction - one left turn - one s				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Wet
City Street	E 32ND AV	S PINES RD				E172189	5/24/2012	Had NOT B	Possible Inj	From same direction -	From same direction -			0	2	3	0	0	At Intersec	Clear or Pa	Straight & l	Dry

PDO / INJ: 2011: 1 / — ; 2012: 2 / 1 ; 2013: 1 / — ; [5]

Thorpe Road & Madison Road

32nd Avenue & SR 27																						
State Route	27					2904294	5/18/2011	Had NOT B	No Injury	Entering at angle				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
State Route	27					2900818	10/4/2011	HBD - Abili	No Injury	From same direction - both going straight - on				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry

PDO / INJ: 2011: 2 / — ; 2012: — / — ; 2013: — / — ; [2]

32nd Avenue & Evergreen Road

JURISDICTION	PRIMARY TRAFFICWAY	INTERSECTING TRAFFICWAY	DIST FROM REF POINT	MI or FT	REFERENCE POINT NAME	REPORT NUMBER	DATE	MOST SEVERE SOBRIETY TYPE	MOST SEVERE INJURY TYPE	FIRST COLLISION TYPE	FIRST OBJECT STRUCK	SECOND COLLISION TYPE	SECOND OBJECT STRUCK	# FATALITIES	TOTAL # INJURIES	# VEHICLES	# PEDESTRIANS	# PEDALCYCLISTS	JUNCTION RELATIONSHIP	WEATHER	ROADWAY CHARACTERISTIC	ROADWAY SURFACE CONDITIONS
32nd Avenue & University Road																						
City Street	E 32ND AV	S UNIVERSITY RD				E135292	11/7/2011	Had NOT B	No Injury	From same direction - both going straight - on				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	E 32ND AV	S UNIVERSITY RD				2901831	5/8/2012	Had NOT B	No Injury	From same direction - both going straight - on				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
															2011	2012	2013					
															PDO —	—	—	[2]				
															INJ 1	1	—					
Dishman-Mica Road & University Road																						
City Street	S DISHMAN	S UNIVERSITY RD				E289398	11/28/2013	Had NOT B	Possible Inj	Entering at angle				0	2	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	S DISHMAN	S SCHAFER RD				E234058	3/22/2013	Had NOT B	Possible Inj	Entering at angle				0	1	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	S DISHMAN	S SCHAFER RD				E186100	8/12/2012	HBD - Abili	No Injury	Fixed objec	Signal Pole			0	0	1	0	0	At Intersec	Clear or Pa	Curve & Le	Dry
City Street	S DISHMAN	MICA RD	110	F	S SCHAFER	E180738	7/13/2012	Had NOT B	No Injury	From same direction - both going straight - bc				0	0	2	0	0	Not at Inte	Clear or Pa	Straight & l	Dry
															2011	2012	2013					
															PDO —	2	—	[4]				
															INJ —	—	2					
32nd Avenue & Bowdish Road																						
City Street	E 32 AV	S BOWDISH RD				E131740	10/19/2011	Had NOT B	No Injury	From opposite directio	From opposite directio			0	0	3	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	S BOWDISH	E 32ND AVE				2900393	6/28/2012	Had NOT B	No Injury	From opposite direction - one left turn - one s				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	S BOWDISH	E 32 AV				2909563	8/21/2011	Had NOT B	Possible Inj	Entering at angle				0	2	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	S BOWDISH	E 32ND AVE				2909102	4/22/2011	Had NOT B	No Injury	Entering at angle				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	E 32 RD	S BOWDISH RD		M		E154327	2/14/2012	Had NOT B	No Injury	From same direction - both going straight - on				0	0	2	0	0	At Intersec	Overcast	Straight & l	Wet
															2011	2012	2013					
															PDO 2	2	—	[5]				
															INJ 1	—	—					
Dishman-Mica Road & Bowdish Road																						
City Street	E 32ND AV	S BOWDISH RD				2900382	12/9/2011	Had NOT B	No Injury	From same direction - both going straight - bc				0	0	2	0	0	At Intersec	Clear or Pa	Straight & l	Unknown
City Street	S BOWDISH	S DISHMAN MICA RD				2900890	9/11/2013	Had NOT B	Possible Inj	From opposite direction - one left turn - one s				0	1	2	0	0	At Intersec	Clear or Pa	Straight & l	Dry
City Street	E 32ND AV	S BOWDISH RD				E093682	2/24/2011	Had NOT B	Evident Inju	From opposite direction - one stopped - head-				0	1	2	0	0	At Intersec	Clear or Pa	Straight & l	Ice
City Street	S DISHMAN	S BOWDISH RD				3358375	12/23/2011	HBD - Abili	Evident Inju	From same direction -	Entering at angle			0	2	3	0	0	At Intersec	Overcast	Straight & l	Dry
															2011	2012	2013					
Dishman-Mica Road & Thorpe Road															PDO 1	—	—	[9]				
															INJ 2	—	1					

RAW TRAFFIC COUNTS

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & University

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/20/2015

Counter: JDK
Analyst: BNG

AM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @ 6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left			0		1		0		1		2		1											
	Through			20		38		38		26	1	35		25											
	Right			0		0		1		0		2	1	2											
	App. Total	0	0	20	0	39	0	39	0	27	1	39	1	28	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0		0		0		0.036		0.025		0										
Westbound	Left			4		4		7		3	1	6		15											
	Through			63		94		116		124		113		88											
	Right			11		5	1	24	1	26	2	28		29	1										
	App. Total	0	0	78	0	103	1	147	1	153	3	147	0	132	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0		0.01		0.007		0.019		0		0.008										
Northbound	Left			5		1		4		7		4		4											
	Through			12		13		22		19		19		13											
	Right			11		18		10	1	19		13		16	1										
	App. Total	0	0	28	0	32	0	36	1	45	0	36	0	33	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0		0		0.027		0		0		0.029										
Southbound	Left			6		17	3	10	2	19	2	11		16	1										
	Through			3		6	1	4		15		13	1	13											
	Right			0		0		0	1	1		1		1											
	App. Total	0	0	9	0	23	4	14	3	35	2	25	1	30	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0		0.148		0.176		0.054		0.038		0.032										
Total Intersection Volume		0	0	135	0	197	5	236	5	260	6	247	2	223	3	0	0	0	0	0	0	0	0	0	0
Intersection Pct Trucks				0.0%		2.5%		2.1%		2.3%		0.8%		1.3%											

Intersection Total One Hour Volumes		Pct Trucks
6:30 AM	578	1.7%
6:45 AM	844	1.9%
7:00 AM	958	1.9%
7:15 AM	982	1.6%
7:30 AM	741	1.5%
7:45 AM	475	1.1%

Intersection Total One Hour Volumes		Pct Trucks
8:00 AM	226	1.3%
8:15 AM	0	
8:30 AM	0	

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & University

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/20/2015
Counter Analyst
JDK BNG

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	0		1		2		1		4	0.50	0%
	Through	38		26	1	35		25		125	0.82	1%
	Right	1		0		2	1	2		6	0.50	17%
	App. Total	39	0	27	1	39	1	28	0	135	0.84	
	Pct Trucks		0		0.035714		0.025		0			
Westbound	Left	7		3	1	6		15		32	0.53	3%
	Through	116		124		113		88		441	0.89	0%
	Right	24	1	26	2	28		29	1	111	0.93	4%
	App. Total	147	1	153	3	147	0	132	1	584	0.94	
	Pct Trucks		0.006757		0.019231		0		0.007519			
Northbound	Left	4		7		4		4		19	0.68	0%
	Through	22		19		19		13		73	0.83	0%
	Right	10	1	19		13		16	1	60	0.79	3%
	App. Total	36	1	45	0	36	0	33	1	152	0.84	
	Pct Trucks		0.027027		0		0		0.029412			
Southbound	Left	10	2	19	2	11		16	1	61	0.73	8%
	Through	4		15		13	1	13		46	0.77	2%
	Right	0	1	1		1		1		4	1.00	25%
	App. Total	14	3	35	2	25	1	30	1	111	0.75	
	Pct Trucks		0.176471		0.054054		0.038462		0.032258			
Total Intersection Volume		236	5	260	6	247	2	223	3	**982**	**0.92**	
Intersection Pct Trucks			2.1%		2.3%		0.8%		1.3%			

Pedestrian Calls

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									**0**
Westbound	Through									**0**
N orthbound	Through			1		1		1		**3**
Southbound	Through									**0**
	App. Total	0	0	1	0	1	0	1	0	3

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & University

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/8/2015

Counter: JDK
Analyst: BNG

PM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @																							
		3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left					1		1		1		0		1		0									
	Through					75		75	1	80		85	1	106	1	96	2								
	Right					8		4		5	1	3		3		4									
	App. Total	0	0	0	0	84	0	80	1	86	1	88	1	110	1	100	2	0	0	0	0	0	0	0	0
	Pct Trucks						0		0.012		0.011		0.011		0.009		0.02								
Westbound	Left					13	1	12		23		13		21		15									
	Through					37	2	40		48		35		37		56									
	Right					8	1	10		13	1	13		15	1	16									
	App. Total	0	0	0	0	58	4	62	0	84	1	61	0	73	1	87	0	0	0	0	0	0	0	0	0
	Pct Trucks						0.065		0		0.012		0		0.014		0								
Northbound	Left					2	1	10	1	1		13		2		3									
	Through					11	1	17		10	1	13		21		9									
	Right					14				12		0		11		14									
	App. Total	0	0	0	0	27	2	27	1	23	1	26	0	34	0	26	0	0	0	0	0	0	0	0	0
	Pct Trucks						0.069		0.036		0.042		0		0		0								
Southbound	Left					27	2	24	1	16	1	27		22	1	30									
	Through					22	1	20		22		24		26		32									
	Right					2		1		2		0		1		2									
	App. Total	0	0	0	0	51	3	45	1	40	1	51	0	49	1	64	0	0	0	0	0	0	0	0	0
	Pct Trucks						0.056		0.022		0.024		0		0.02		0								
Total Intersection Volume		0	0	0	0	220	9	214	3	233	4	226	1	266	3	277	2	0	0	0	0	0	0	0	0
Intersection Pct Trucks						3.9%		1.4%		1.7%		0.4%		1.1%		0.7%									

Intersection Total		Pct
One Hour Volumes		Trucks
3:30 PM	446	2.7%
3:45 PM	683	2.3%
4:00 PM	910	1.9%
4:15 PM	950	1.2%
4:30 PM	1012	1.0%
4:45 PM	775	0.8%

Intersection Total		Pct
	One Hour Volumes	Trucks
5:00 PM	548	0.9%
5:15 PM	279	0.7%
5:30 PM	0	

Notes:

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PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & University

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/8/2015
Counter Analyst
JDK BNG

Whipple Consulting Engineers, Inc
PM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	4:30 PM		4:45 PM		5:00 PM		5:15 PM				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	1		0		1		0		2	0.50	0%
	Through	80		85	1	106	1	96	2	371	0.87	1%
	Right	5	1	3		3		4		16	0.67	6%
	App. Total	86	1	88	1	110	1	100	2	389	0.88	
	Pct Trucks		0.011494		0.011236		0.009009		0.019608			
Westbound	Left	23		13		21		15		72	0.78	0%
	Through	48		35		37		56		176	0.79	0%
	Right	13	1	13		15	1	16		59	0.92	3%
	App. Total	84	1	61	0	73	1	87	0	307	0.88	
	Pct Trucks		0.011765		0		0.013514		0			
Northbound	Left	1		13		2		3		19	0.37	0%
	Through	10	1	13		21		9		54	0.64	2%
	Right	12		0		11		14		37	0.66	0%
	App. Total	23	1	26	0	34	0	26	0	110	0.81	
	Pct Trucks		0.041667		0		0		0			
Southbound	Left	16	1	27		22	1	30		97	0.81	2%
	Through	22		24		26		32		104	0.81	0%
	Right	2		0		1		2		5	0.63	0%
	App. Total	40	1	51	0	49	1	64	0	206	0.80	
	Pct Trucks		0.02439		0		0.02		0			
Total Intersection Volume		233	4	226	1	266	3	277	2	**1012**	**0.91**	
Intersection Pct Trucks			1.7%		0.4%		1.1%		0.7%			

Pedestrian Calls

APPROACH	MOVEMENT	4:30 PM		4:45 PM		5:00 PM		5:15 PM		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									**0**
Westbound	Through	1								**1**
N orthbound	Through	1								**1**
Southbound	Through							1		**1**
	App. Total	2	0	0	0	0	0	1	0	3

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: Dishman-Mica & University/Schafer

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/20/2015
Counter RMA
Analyst BNG

AM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @ 6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left			0		0		1		0		0		0											
	Through			22		21	1	29	3	22	4	45	1	26	1										
	Right			7	2	7		10		7		11		8	1										
	App. Total	0	0	29	2	28	1	40	3	29	4	56	1	34	2	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.065		0.034		0.07		0.121		0.018		0.056										
Westbound	Left			0		0		1		1		8		4											
	Through			58	2	81		89	1	116	1	86	4	67	1										
	Right			7		2		7		4		4	1	5											
	App. Total	0	0	65	2	83	0	97	1	121	1	98	5	76	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.03		0		0.01		0.008		0.049		0.013										
Northbound	Left			38		54		57		56		46		26											
	Through			14		19		23		26		26	1	18											
	Right			1		2		4		6		10		3											
	App. Total	0	0	53	0	75	0	84	0	88	0	82	1	47	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0		0		0		0		0.012		0										
Southbound	Left			2	1	1		2		6		5		4											
	Through			4		9	1	7		4	1	15		18											
	Right			1		1		4		5		1		1											
	App. Total	0	0	7	1	11	1	13	0	15	1	21	0	23	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.125		0.083		0		0.063		0		0										
Total Intersection Volume		0	0	154	5	197	2	234	4	253	6	257	7	180	3	0	0	0	0	0	0	0	0	0	0
Intersection Pct Trucks				3.1%		1.0%		1.7%		2.3%		2.7%		1.6%											

Intersection Total One Hour Volumes		Pct Trucks
6:30 AM	596	1.8%
6:45 AM	855	2.0%
7:00 AM	960	2.0%
7:15 AM	944	2.1%
7:30 AM	706	2.3%
7:45 AM	447	2.2%

Intersection Total One Hour Volumes		Pct Trucks
8:00 AM	183	1.6%
8:15 AM	0	
8:30 AM	0	

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: Dishman-Mica & Universty/Schafer

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/20/2015
Counter Analyst
RMA BNG

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:00		7:15		7:30		7:45				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	0		1		0		0		1	0.25	0%
	Through	21	1	29	3	22	4	45	1	126	0.68	7%
	Right	7		10		7		11		35	0.80	0%
	App. Total	28	1	40	3	29	4	56	1	162	0.71	
	Pct Trucks		0.034483		0.069767		0.121212		0.017544			
Westbound	Left	0		1		1		8		10	0.31	0%
	Through	81		89	1	116	1	86	4	378	0.81	2%
	Right	2		7		4		4	1	18	0.64	6%
	App. Total	83	0	97	1	121	1	98	5	406	0.83	
	Pct Trucks		0		0.010204		0.008197		0.048544			
Northbound	Left	54		57		56		46		213	0.93	0%
	Through	19		23		26		26	1	95	0.88	1%
	Right	2		4		6		10		22	0.55	0%
	App. Total	75	0	84	0	88	0	82	1	330	0.94	
	Pct Trucks		0		0		0		0.012048			
Southbound	Left	1		2		6		5		14	0.58	0%
	Through	9	1	7		4	1	15		37	0.62	5%
	Right	1		4		5		1		11	0.55	0%
	App. Total	11	1	13	0	15	1	21	0	62	0.74	
	Pct Trucks		0.083333		0		0.0625		0			
Total Intersection Volume		197	2	234	4	253	6	257	7	**960**	**0.91**	
Intersection Pct Trucks			1.0%		1.7%		2.3%		2.7%			

Pedestrian Calls

APPROACH	MOVEMENT	7:00		7:15		7:30		7:45		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									0
Westbound	Through									0
N orthbound	Through									0
Southbound	Through									0
	App. Total	0	0	0	0	0	0	0	0	0

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: Dishman-Mica & University/Schafer

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/7/2015

Counter: Fred
Analyst: BNG

PM PEAK HOURS

15 Minute Period Beginning @

APPROACH	MOVEMENT	3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left									8		3		1		8		2		5					
	Through									57		73		69		68		80		78					
	Right									28		38		29		35		44		48					
	App. Total	0	0	0	0	0	0	0	0	93	0	114	0	99	0	111	0	126	0	131	0	0	0	0	0
	Pct Trucks										0		0		0		0		0		0				
Westbound	Left									5		11		10		12		12		4					
	Through									41		26		38		49		45		41					
	Right									10		4		0		5		2		2					
	App. Total	0	0	0	0	0	0	0	0	56	0	41	0	48	0	66	0	59	0	47	0	0	0	0	0
	Pct Trucks										0		0		0		0		0		0				
Northbound	Left									16		20		16		15		23		16					
	Through									7		13		14		14		12		11					
	Right									6		8		1		2		4		3					
	App. Total	0	0	0	0	0	0	0	0	29	0	41	0	31	0	31	0	39	0	30	0	0	0	0	0
	Pct Trucks										0		0		0		0		0		0				
Southbound	Left									4		0		4		9		11		7					
	Through									24		15		21		27		26		29					
	Right									5		0		0		1		2		2					
	App. Total	0	0	0	0	0	0	0	0	33	0	15	0	25	0	37	0	39	0	38	0	0	0	0	0
	Pct Trucks										0		0		0		0		0		0				
Total Intersection Volume		0	0	0	0	0	0	0	0	211	0	211	0	203	0	245	0	263	0	246	0	0	0	0	0
Intersection Pct Trucks										0.0%		0.0%		0.0%		0.0%		0.0%		0.0%					

Intersection Total One Hour Volumes		Pct Trucks
3:30 PM	0	
3:45 PM	211	0.0%
4:00 PM	422	0.0%
4:15 PM	625	0.0%
4:30 PM	870	0.0%
4:45 PM	922	0.0%

Intersection Total One Hour Volumes		Pct Trucks
5:00 PM	957	0.0%
5:15 PM	754	0.0%
5:30 PM	509	0.0%

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: Dishman-Mica & University/Schafer

Data Transfer
Intersection No. 1

DATE OF COUNT 10/7/2015
Counter Analyst
Fred BNG

Whipple Consulting Engineers, Inc
PM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	5:00 PM		5:15 PM		5:30 PM		5:45 PM				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	1		8		2		5		16	0.50	0%
	Through	69		68		80		78		295	0.92	0%
	Right	29		35		44		48		156	0.81	0%
	App. Total	99	0	111	0	126	0	131	0	467	0.89	
	Pct Trucks		0		0		0		0			
Westbound	Left	10		12		12		4		38	0.79	0%
	Through	38		49		45		41		173	0.88	0%
	Right	0		5		2		2		9	0.45	0%
	App. Total	48	0	66	0	59	0	47	0	220	0.83	
	Pct Trucks		0		0		0		0			
Northbound	Left	16		15		23		16		70	0.76	0%
	Through	14		14		12		11		51	0.91	0%
	Right	1		2		4		3		10	0.63	0%
	App. Total	31	0	31	0	39	0	30	0	131	0.84	
	Pct Trucks		0		0		0		0			
Southbound	Left	4		9		11		7		31	0.70	0%
	Through	21		27		26		29		103	0.89	0%
	Right	0		1		2		2		5	0.63	0%
	App. Total	25	0	37	0	39	0	38	0	139	0.89	
	Pct Trucks		0		0		0		0			
Total Intersection Volume		203	0	245	0	263	0	246	0	**957**	**0.91**	
Intersection Pct Trucks			0.0%		0.0%		0.0%		0.0%			

Pedestrian Calls

APPROACH	MOVEMENT	5:00 PM		5:15 PM		5:30 PM		5:45 PM		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									**0**
Westbound	Through									**0**
N orthbound	Through							1		**1**
Southbound	Through									**0**
	App. Total	0	0	0	0	0	0	1	0	1

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & Bowdish

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/8/2015
Counter: CEL
Analyst: BNG

AM PEAK HOURS

		15 Minute Period Beginning @																							
APPROACH	MOVEMENT	6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left			4		9		6	1	13		22		15											
	Through			49		91	1	91	2	125	1	92	9	90	1										
	Right			1		10		7		8		9		17											
	App. Total	0	0	54	0	110	1	104	3	146	1	123	9	122	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0		0.009		0.028		0.007		0.068		0.008										
Westbound	Left			4		5		5		8		5		2											
	Through			30	1	76	1	48	1	56	4	64	3	37	1										
	Right			2		2		1		1	1	3		0	1										
	App. Total	0	0	36	1	83	1	54	1	65	5	72	3	39	2	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.027		0.012		0.018		0.071		0.04		0.049										
Northbound	Left			0		1		13		14		22	2	13											
	Through			3		7	1	5		12		19		4											
	Right			2		9		6		9		4		5											
	App. Total	0	0	5	0	17	1	24	0	35	0	45	2	22	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0		0.056		0		0		0.043		0										
Southbound	Left			18		15		20		21		17		9											
	Through			19		25		24		33		26	1	19											
	Right			11		15		15		29	1	32		27											
	App. Total	0	0	48	0	55	0	59	0	83	1	75	1	55	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0		0		0		0.012		0.013		0										
Total Intersection Volume		0	0	143	1	265	3	241	4	329	7	315	15	238	3	0	0	0	0	0	0	0	0	0	0
Intersection Pct Trucks				0.7%		1.1%		1.6%		2.1%		4.5%		1.2%											

Intersection Total One Hour Volumes		Pct Trucks
6:30 AM	657	1.2%
6:45 AM	993	1.5%
7:00 AM	1179	2.5%
7:15 AM	1152	2.5%
7:30 AM	907	2.8%
7:45 AM	571	3.2%

Intersection Total One Hour Volumes		Pct Trucks
8:00 AM	241	1.2%
8:15 AM	0	
8:30 AM	0	

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & Bowdish

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/8/2015
Counter Analyst
CEL BNG

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:00		7:15		7:30		7:45				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	9		6	1	13		22		51	0.58	2%
	Through	91	1	91	2	125	1	92	9	412	0.82	3%
	Right	10		7		8		9		34	0.85	0%
	App. Total	110	1	104	3	146	1	123	9	497	0.85	
	Pct Trucks		0.009009		0.028037		0.006803		0.068182			
Westbound	Left	5		5		8		5		23	0.72	0%
	Through	76	1	48	1	56	4	64	3	253	0.82	4%
	Right	2		1		1	1	3		8	0.67	13%
	App. Total	83	1	54	1	65	5	72	3	284	0.85	
	Pct Trucks		0.011905		0.018182		0.071429		0.04			
Northbound	Left	1		13		14		22	2	52	0.54	4%
	Through	7	1	5		12		19		44	0.58	2%
	Right	9		6		9		4		28	0.78	0%
	App. Total	17	1	24	0	35	0	45	2	124	0.66	
	Pct Trucks		0.055556		0		0		0.042553			
Southbound	Left	15		20		21		17		73	0.87	0%
	Through	25		24		33		26	1	109	0.83	1%
	Right	15		15		29	1	32		92	0.72	1%
	App. Total	55	0	59	0	83	1	75	1	274	0.82	
	Pct Trucks		0		0		0.011905		0.013158			
Total Intersection Volume		265	3	241	4	329	7	315	15	**1179**	**0.88**	
Intersection Pct Trucks			1.1%		1.6%		2.1%		4.5%			

Pedestrian Calls

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									0
Westbound	Through									0
N orthbound	Through									0
Southbound	Through									0
	App. Total	0	0	0	0	0	0	0	0	0

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & Bowdish

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/8/2015

Counter: RMA
Analyst: BNG

PM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @																							
		3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left					8		8		4		4		2		5									
	Through					97	1	80	1	85	1	96	1	115	2	114	1								
	Right					18	1	10		14		11		12		20									
	App. Total	0	0	0	0	123	2	98	1	103	1	111	1	129	2	139	1	0	0	0	0	0	0	0	0
	Pct Trucks						0.016		0.01		0.01		0.009		0.015		0.007								
Westbound	Left					13		27	1	25		18		24		20									
	Through					55	2	50		76	1	56	1	63		72									
	Right					7		10		14		11		8		15									
	App. Total	0	0	0	0	75	2	87	1	115	1	85	1	95	0	107	0	0	0	0	0	0	0	0	0
	Pct Trucks						0.026		0.011		0.009		0.012		0		0								
Northbound	Left					11		4		8		2		6		5									
	Through					28	1	18		30		20		21		13	1								
	Right					19		22	1	24		18		13		22									
	App. Total	0	0	0	0	58	1	44	1	62	0	40	0	40	0	40	1	0	0	0	0	0	0	0	0
	Pct Trucks						0.017		0.022		0		0		0		0.024								
Southbound	Left					11		13		4		10		15		9									
	Through					27		14		25	1	29		39		40									
	Right					7		10		6		3		6		5									
	App. Total	0	0	0	0	45	0	37	0	35	1	42	0	60	0	54	0	0	0	0	0	0	0	0	0
	Pct Trucks						0		0		0.028		0		0		0								
Total Intersection Volume		0	0	0	0	301	5	266	3	315	3	278	2	324	2	340	2	0	0	0	0	0	0	0	0
Intersection Pct Trucks						1.6%		1.1%		0.9%		0.7%		0.6%		0.6%									

Intersection Total One Hour Volumes		Pct Trucks
3:30 PM	575	1.4%
3:45 PM	893	1.2%
4:00 PM	1173	1.1%
4:15 PM	1193	0.8%
4:30 PM	1266	0.7%
4:45 PM	948	0.6%

Intersection Total One Hour Volumes		Pct Trucks
5:00 PM	668	0.6%
5:15 PM	342	0.6%
5:30 PM	0	

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & Bowdish

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/8/2015
Counter Analyst
RMA BNG

Whipple Consulting Engineers, Inc
PM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	4:30 PM		4:45 PM		5:00 PM		5:15 PM				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	4		4		2		5		15	0.75	0%
	Through	85	1	96	1	115	2	114	1	415	0.89	1%
	Right	14		11		12		20		57	0.71	0%
	App. Total	103	1	111	1	129	2	139	1	487	0.87	
	Pct Trucks		0.009615		0.008929		0.015267		0.007143			
Westbound	Left	25		18		24		20		87	0.87	0%
	Through	76	1	56	1	63		72		269	0.87	1%
	Right	14		11		8		15		48	0.80	0%
	App. Total	115	1	85	1	95	0	107	0	404	0.87	
	Pct Trucks		0.008621		0.011628		0		0			
Northbound	Left	8		2		6		5		21	0.66	0%
	Through	30		20		21		13	1	85	0.71	1%
	Right	24		18		13		22		77	0.80	0%
	App. Total	62	0	40	0	40	0	40	1	183	0.74	
	Pct Trucks		0		0		0		0.02439			
Southbound	Left	4		10		15		9		38	0.63	0%
	Through	25	1	29		39		40		134	0.84	1%
	Right	6		3		6		5		20	0.83	0%
	App. Total	35	1	42	0	60	0	54	0	192	0.80	
	Pct Trucks		0.027778		0		0		0			
Total Intersection Volume		315	3	278	2	324	2	340	2	**1266**	**0.93**	
Intersection Pct Trucks			0.9%		0.7%		0.6%		0.6%			

Pedestrian Calls

APPROACH	MOVEMENT	4:30 PM		4:45 PM		5:00 PM		5:15 PM		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									0
Westbound	Through									0
N orthbound	Through									0
Southbound	Through									0
	App. Total	0	0	0	0	0	0	0	0	0

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: Dishman-Mica & Bowdish

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/8/2015

Counter: RMA
Analyst: BNG

AM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @ 6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left					0		3		2		0		1		1									
	Through					16		30	1	32	1	27		22		22									
	Right					4		10		6	1	7		7		7	1								
	App. Total	0	0	0	0	20	0	43	1	40	2	34	0	30	0	30	1	0	0	0	0	0	0	0	0
	Pct Trucks						0		0.023		0.048		0		0		0.032								
Westbound	Left					1		0		4		1		4		8	1								
	Through					46	3	73		72	2	60	1	60	1	53	1								
	Right							3		10		0		7		5									
	App. Total	0	0	0	0	47	3	76	0	86	2	61	1	71	1	66	2	0	0	0	0	0	0	0	0
	Pct Trucks						0.06		0		0.023		0.016		0.014		0.029								
Northbound	Left					21		26		33		23		30		14									
	Through					24		29		40		45	1	28		16									
	Right					4		4	1	3		3		5		4									
	App. Total	0	0	0	0	49	0	59	1	76	0	71	1	63	0	34	0	0	0	0	0	0	0	0	0
	Pct Trucks						0		0.017		0		0.014		0		0								
Southbound	Left					5	1	4		7		6		4		0									
	Through					7		7		12		25		15		6									
	Right					6		1		3		1		2		2									
	App. Total	0	0	0	0	18	1	12	0	22	0	32	0	21	0	8	0	0	0	0	0	0	0	0	0
	Pct Trucks						0.053		0		0		0		0		0								
Total Intersection Volume		0	0	0	0	134	4	190	2	224	4	198	2	185	1	138	3	0	0	0	0	0	0	0	0
Intersection Pct Trucks						2.9%		1.0%		1.8%		1.0%		0.5%		2.1%									

Intersection Total One Hour Volumes		Pct Trucks
6:30 AM	330	1.8%
6:45 AM	558	1.8%
7:00 AM	758	1.6%
7:15 AM	806	1.1%
7:30 AM	755	1.3%
7:45 AM	527	1.1%

Intersection Total One Hour Volumes		Pct Trucks
8:00 AM	327	1.2%
8:15 AM	141	2.1%
8:30 AM	0	

Notes:

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PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: Dishman-Mica & Bowdish

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/8/2015
Counter Analyst
RMA BNG

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	3		2		0		1		6	0.50	0%
	Through	30	1	32	1	27		22		113	0.86	2%
	Right	10		6	1	7		7		31	0.78	3%
	App. Total	43	1	40	2	34	0	30	0	150	0.85	
	Pct Trucks		0.022727		0.047619		0		0			
Westbound	Left	0		4		1		4		9	0.56	0%
	Through	73		72	2	60	1	60	1	269	0.91	1%
	Right	3		10		0		7		20	0.50	0%
	App. Total	76	0	86	2	61	1	71	1	298	0.85	
	Pct Trucks		0		0.022727		0.016129		0.013889			
Northbound	Left	26		33		23		30		112	0.85	0%
	Through	29		40		45	1	28		143	0.78	1%
	Right	4	1	3		3		5		16	0.80	6%
	App. Total	59	1	76	0	71	1	63	0	271	0.89	
	Pct Trucks		0.016667		0		0.013889		0			
Southbound	Left	4		7		6		4		21	0.75	0%
	Through	7		12		25		15		59	0.59	0%
	Right	1		3		1		2		7	0.58	0%
	App. Total	12	0	22	0	32	0	21	0	87	0.68	
	Pct Trucks		0		0		0		0			
Total Intersection Volume		190	2	224	4	198	2	185	1	**806**	**0.88**	
Intersection Pct Trucks			1.0%		1.8%		1.0%		0.5%			

Pedestrian Calls

APPROACH	MOVEMENT	7:30		7:45		8:00		8:15		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									**0**
Westbound	Through									**0**
N orthbound	Through	1								**1**
Southbound	Through									**0**
	App. Total	1	0	0	0	0	0	0	0	1

Wee Count LLC.
E. 1110 Excelsior Rd.
Spokane, Wa., 99224
(509) 979-3331

Turn Count Summary

Location: Bowdish Rd. at Dishman Mica Rd., Spokane Valley
GPS Coordinates: Lat=47.618556, Lon=-117.250896
Date: 2015-10-07
Day of week: Wednesday
Weather: Rain
Analyst: Mike McCluskey

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:45	5	34	0	4	21	3	14	20	10	2	54	29	196
17:00	1	36	0	15	37	7	8	31	4	1	48	28	216
17:15	2	26	3	2	41	8	14	9	4	3	56	38	206
17:30	3	25	0	4	42	5	13	19	1	4	56	24	196
17:45	3	31	2	2	35	4	13	23	4	2	60	22	201
18:00	5	35	1	1	31	0	10	21	2	1	42	26	175

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:45	5	34	0	4	21	3	14	20	9	2	53	29	194
17:00	1	36	0	14	36	7	8	31	4	1	47	28	213
17:15	2	26	3	2	41	8	14	9	4	3	56	38	206
17:30	3	25	0	4	42	5	13	19	1	4	56	24	196
17:45	3	31	2	2	34	4	13	23	4	2	60	22	200
18:00	5	35	1	1	31	0	10	21	2	1	42	26	175

Truck traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:45	0	0	0	0	0	0	0	0	1	0	1	0	2
17:00	0	0	0	1	1	0	0	0	0	0	1	0	3
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	1	0	0	0	0	0	0	0	1
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

17:00 - 18:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	9	118	5	23	155	24	48	82	13	10	220	112	819
Factor	0.75	0.82	0.42	0.38	0.92	0.75	0.86	0.66	0.81	0.62	0.92	0.74	0.95
Approach Factor	0.89			0.86			0.83			0.88			

Peak Hour Vehicle Summary

Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	9	118	5	22	153	24	48	82	13	10	219	112	815
Truck	0	0	0	1	2	0	0	0	0	0	1	0	4

4% 1% 0

722

$\frac{93}{722} = 0,128$

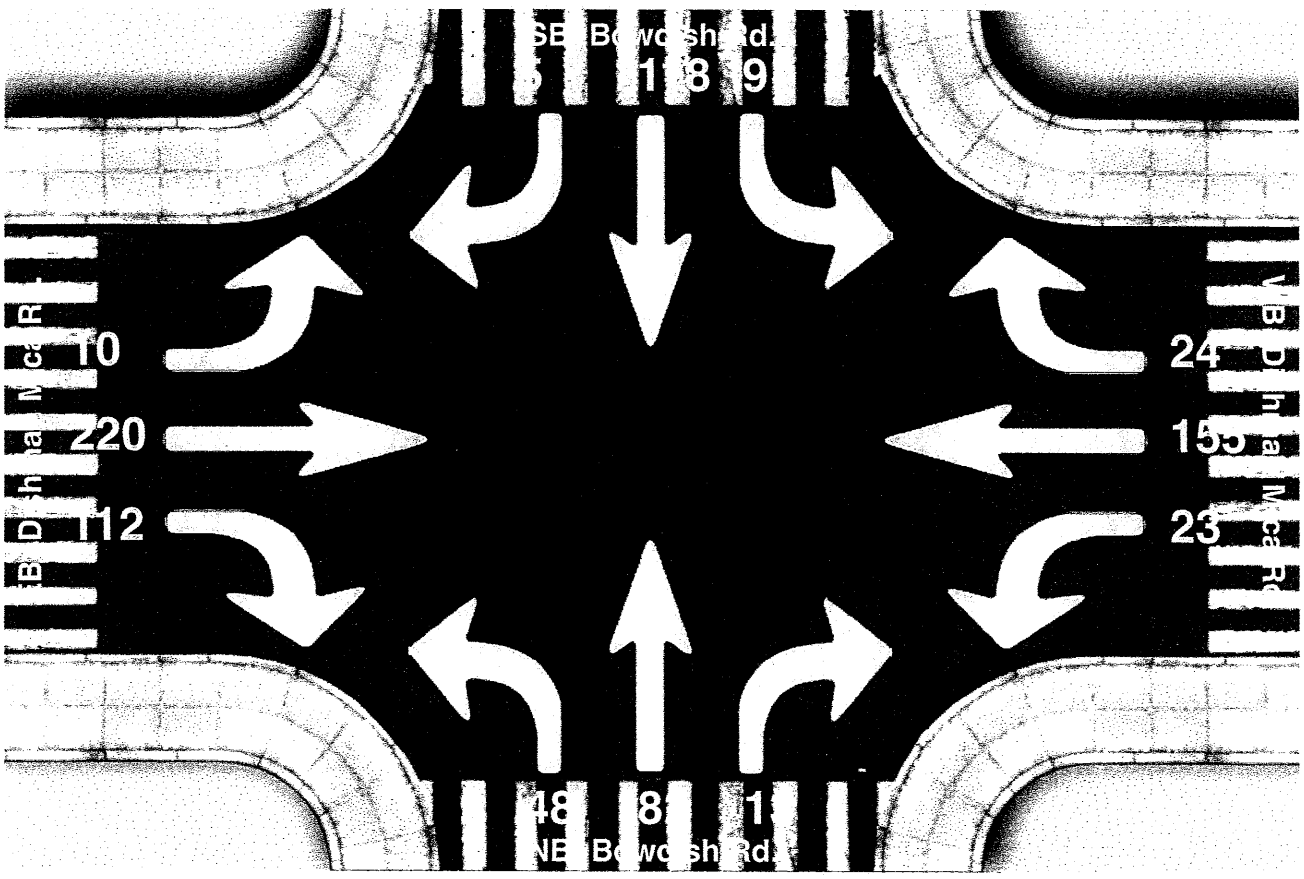
$\approx 13\%$

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: Bowdish Rd. at Dishman Mica Rd., Spokane Valley
GPS Coordinates: Lat=47.618556, Lon=-117.250896
Date: 2015-10-07
Day of week: Wednesday
Weather: Rain
Analyst: Mike McCluskey



Intersection Peak Hour

17:00 - 18:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	9	118	5	23	155	24	48	82	13	10	220	112	819
Factor	0.75	0.82	0.42	0.38	0.92	0.75	0.86	0.66	0.81	0.62	0.92	0.74	0.95
Approach Factor	0.89			0.86			0.83			0.88			

PROJECT: Barker & Sprague CPA
JOB NO. 13-1166
INTERSECTION: Dishman-Mica & Thorpe

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/8/2015

Counter	Analyst
CEL	BNG

AM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @																							
		6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left																								
	Through																								
	Right																								
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks																								
Westbound	Left					1		1		3		2		0		1									
	Through																								
	Right					13	1	21		21		23		8		15									
	App. Total	0	0	0	0	14	1	22	0	24	0	25	0	8	0	16	0	0	0	0	0	0	0	0	0
	Pct Trucks						0.067		0		0		0		0		0								
Northbound	Left																								
	Through					35	2	50	1	70	4	40	1	51	1	43	4								
	Right					3		3		3		3		3		1	1								
	App. Total	0	0	0	0	38	2	53	1	73	4	43	1	54	1	44	5	0	0	0	0	0	0	0	0
	Pct Trucks						0.05		0.019		0.052		0.023		0.018		0.102								
Southbound	Left					8		10		5	1	9		9		9									
	Through					22	1	25	2	34	2	23	2	23		16	1								
	Right																								
	App. Total	0	0	0	0	30	1	35	2	39	3	32	2	32	0	25	1	0	0	0	0	0	0	0	0
	Pct Trucks						0.032		0.054		0.071		0.059		0		0.038								
Total Intersection Volume		0	0	0	0	82	4	110	3	136	7	100	3	94	1	85	6	0	0	0	0	0	0	0	0
Intersection Pct Trucks						4.7%		2.7%		4.9%		2.9%		1.1%		6.6%									

Intersection Total One Hour Volumes		Pct Trucks
6:30 AM	199	3.5%
6:45 AM	342	4.1%
7:00 AM	445	3.8%
7:15 AM	454	3.1%
7:30 AM	432	3.9%
7:45 AM	289	3.5%

Intersection Total One Hour Volumes		Pct Trucks
8:00 AM	186	3.8%
8:15 AM	91	6.6%
8:30 AM	0	

Notes:

PROJECT: Barker & Sprague CPA
JOB NO. 13-1166
INTERSECTION: Dishman-Mica & Thorpe

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/8/2015
Counter Analyst
CEL BNG

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left									0		
	Through									0		
	Right									0		
	App. Total	0	0	0	0	0	0	0	0	0		
	Pct Trucks											
Westbound	Left	1		3		2		0		6	0.50	0%
	Through									0		
	Right	21		21		23		8		73	0.79	0%
	App. Total	22	0	24	0	25	0	8	0	79	0.79	
	Pct Trucks		0		0		0		0			
Northbound	Left									0		
	Through	50	1	70	4	40	1	51	1	218	0.74	3%
	Right	3		3		3		3		12	1.00	0%
	App. Total	53	1	73	4	43	1	54	1	230	0.75	
	Pct Trucks		0.018519		0.051948		0.022727		0.018182			
Southbound	Left	10		5	1	9		9		34	0.85	3%
	Through	25	2	34	2	23	2	23		111	0.77	5%
	Right									0		
	App. Total	35	2	39	3	32	2	32	0	145	0.86	
	Pct Trucks		0.054054		0.071429		0.058824		0			
Total Intersection Volume		110	3	136	7	100	3	94	1	454	**0.79**	
Intersection Pct Trucks			2.7%		4.9%		2.9%		1.1%			

Pedestrian Calls

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									**0**
Westbound	Through									**0**
N orthbound	Through									**0**
Southbound	Through									**0**
	App. Total	0	0	0	0	0	0	0	0	0

PROJECT: Painted Hills
JOB NO. 13-1166
INTERSECTION: Dishman-Mica & Thorpe

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/7/2015

Counter: BNG
Analyst: BNG

PM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @																							
		3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left																								
	Through																								
	Right																								
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks																								
Westbound	Left											2		4		9		4		2		3			
	Through																								
	Right											14		25	1	11		5		10		9			
	App. Total	0	0	0	0	0	0	0	0	0	0	16	0	29	1	20	0	9	0	12	0	12	0	0	0
	Pct Trucks												0		0.033		0		0		0		0		
Northbound	Left																								
	Through											23		37	1	32		43		25	2	21			
	Right											2		1		4		3		1					
	App. Total	0	0	0	0	0	0	0	0	0	0	25	0	38	1	36	0	46	0	26	2	21	0	0	0
	Pct Trucks												0		0.026		0		0		0.071		0		
Southbound	Left											20	1	22		17		10		11		6			
	Through											46	1	37	1	42		51		45		45			
	Right																								
	App. Total	0	0	0	0	0	0	0	0	0	0	66	2	59	1	59	0	61	0	56	0	51	0	0	0
	Pct Trucks												0.029		0.017		0		0		0		0		
Total Intersection Volume		0	0	0	0	0	0	0	0	0	0	107	2	126	3	115	0	116	0	94	2	84	0	0	0
Intersection Pct Trucks												1.8%		2.3%		0.0%		0.0%		2.1%		0.0%			

Intersection Total One Hour Volumes		Pct Trucks
3:30 PM	0	
3:45 PM	0	
4:00 PM	109	1.8%
4:15 PM	238	2.1%
4:30 PM	353	1.4%
4:45 PM	469	1.1%

Intersection Total One Hour Volumes		Pct Trucks
5:00 PM	456	1.1%
5:15 PM	411	0.5%
5:30 PM	296	0.7%

Notes:

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PROJECT: Painted Hills
JOB NO. 13-1166
INTERSECTION: Dishman-Mica & Thorpe

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/7/2015
Counter Analyst
BNG BNG

Whipple Consulting Engineers, Inc
PM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	4:45 PM		5:00 PM		5:15 PM		5:30 PM				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left									0		
	Through									0		
	Right									0		
	App. Total	0	0	0	0	0	0	0	0	0		
	Pct Trucks											
Westbound	Left	2		4		9		4		19	0.53	0%
	Through									0		
	Right	14		25	1	11		5		56	0.54	2%
	App. Total	16	0	29	1	20	0	9	0	75	0.63	
	Pct Trucks		0		0.033333		0		0			
Northbound	Left									0		
	Through	23		37	1	32		43		136	0.79	1%
	Right	2		1		4		3		10	0.63	0%
	App. Total	25	0	38	1	36	0	46	0	146	0.79	
	Pct Trucks		0		0.025641		0		0			
Southbound	Left	20	1	22		17		10		70	0.80	1%
	Through	46	1	37	1	42		51		178	0.87	1%
	Right									0		
	App. Total	66	2	59	1	59	0	61	0	248	0.91	
	Pct Trucks		0.029412		0.016667		0		0			
Total Intersection Volume		107	2	126	3	115	0	116	0	**469**	**0.91**	
Intersection Pct Trucks			1.8%		2.3%		0.0%		0.0%			

Pedestrian Calls

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									**0**
Westbound	Through									**0**
N orthbound	Through									**0**
Southbound	Through									**0**
	App. Total	0	0	0	0	0	0	0	0	0

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th & Pines

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 1/28/2015

Counter	Analyst
JDK	BNG

AM PEAK HOURS

		15 Minute Period Beginning @																							
APPROACH	MOVEMENT	6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left																								
	Through					35		53	1	56	1	55	3	51	3	41	5	35	1	64	3				
	Right					2	1	19		15		4		3		6		4		3					
	App. Total	0	0	0	0	37	1	72	1	71	1	59	3	54	3	47	5	39	1	67	3	0	0	0	0
	Pct Trucks						0.03		0.01		0.01		0.05		0.05		0.1		0.03		0.04				
Westbound	Left					5		16		13		11		9		8		1		13					
	Through					29	1	54		50	3	51	4	34	2	31		29		38					
	Right																								
	App. Total	0	0	0	0	34	1	70	0	63	3	62	4	43	2	39	0	30	0	51	0	0	0	0	0
	Pct Trucks						0.03		0		0.05		0.06		0.04		0		0		0				
Northbound	Left					7		6		8		5		5		2		5		5					
	Through																								
	Right					55		52	3	53		47		43		37	1	37	3	51					
	App. Total	0	0	0	0	62	0	58	3	61	0	52	0	48	0	39	1	42	3	56	0	0	0	0	0
	Pct Trucks						0		0.05		0		0		0		0.03		0.07		0				
Southbound	Left					1																			
	Through					21	2	41	1	38	1	24	1	28		13		28	2	35	1				
	Right					8		9	1	4		11	1	5		9	1	9		14					
	App. Total	0	0	0	0	30	2	50	2	42	1	35	2	33	0	22	1	37	2	49	1	0	0	0	0
	Pct Trucks						0.06		0.04		0.02		0.05		0		0.04		0.05		0.02				
Total Intersection Volume		0	0	0	0	163	4	250	6	237	5	208	9	178	5	147	7	148	6	223	4	0	0	0	0
Intersection Pct Trucks						2.4%		2.3%		2.1%		4.1%		2.7%		4.5%		3.9%		1.8%					

Intersection Total		Pct
One Hour Volumes		Trucks
6:30 AM	423	2.4%
6:45 AM	665	2.3%
7:00 AM	882	2.7%
7:15 AM	898	2.8%
7:30 AM	796	3.3%
7:45 AM	708	3.8%

Intersection Total		Pct
One Hour Volumes		Trucks
8:00 AM	718	3.1%
8:15 AM	535	3.2%
8:30 AM	381	2.6%

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th & Pines

Data Transfer
Intersection No. 1

DATE OF COUNT 1/28/2015
Counter Analyst
JDK BNG

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left									0		
	Through	53	1	56	1	55	3	51	3	223	0.96	4%
	Right	19		15		4		3		41	0.54	0%
	App. Total	72	1	71	1	59	3	54	3	264	0.90	
	Pct Trucks		0.013699		0.013889		0.048387		0.052632			
Westbound	Left	16		13		11		9		49	0.77	0%
	Through	54		50	3	51	4	34	2	198	0.90	5%
	Right									0		
	App. Total	70	0	63	3	62	4	43	2	247	0.88	
	Pct Trucks		0		0.045455		0.060606		0.044444			
Northbound	Left	6		8		5		5		24	0.75	0%
	Through									0		
	Right	52	3	53		47		43		198	0.90	2%
	App. Total	58	3	61	0	52	0	48	0	222	0.91	
	Pct Trucks		0.04918		0		0		0			
Southbound	Left									0		
	Through	41	1	38	1	24	1	28		134	0.80	2%
	Right	9	1	4		11	1	5		31	0.65	6%
	App. Total	50	2	42	1	35	2	33	0	165	0.79	
	Pct Trucks		0.038462		0.023256		0.054054		0			
Total Intersection Volume		250	6	237	5	208	9	178	5	**898**	**0.88**	
Intersection Pct Trucks			2.3%		2.1%		4.1%		2.7%			

Pedestrian Calls

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									0
Westbound	Through					2				2
N orthbound	Through									0
Southbound	Through									0
	App. Total	0	0	0	0	2	0	0	0	2

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th Avenue & Pines Road

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/6/2015
Counter: Judy
Analyst: BNG

PM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @																					
		3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left																								
	Through			52	2	73	1	75	1	59		92	1	81											
	Right			9		12		11		6		14		17											
	App. Total	0	0	61	2	85	1	86	1	65	0	106	1	98	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.032		0.012		0.011		0		0.009		0										
Westbound	Left			13	1	13		19		12		15		16											
	Through			31	2	28		25		37		41		35											
	Right																								
	App. Total	0	0	44	3	41	0	44	0	49	0	56	0	51	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.064		0		0		0		0		0										
Northbound	Left			5		2		4		8		2		6											
	Through																								
	Right			31		34		38		44		36		44											
	App. Total	0	0	36	0	36	0	42	0	52	0	38	0	50	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0		0		0		0		0		0										
Southbound	Left					1																			
	Through			27	1	51		40		55		52		54											
	Right			14		16	1	29		20	1	24	1	27	1										
	App. Total	0	0	41	1	68	1	69	0	75	1	76	1	81	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.024		0.014		0		0.013		0.013		0.012										
Total Intersection Volume		0	0	182	6	230	2	241	1	241	1	276	2	280	1	0	0	0	0	0	0	0	0	0	0
Intersection Pct Trucks				3.2%		0.9%		0.4%		0.4%		0.7%		0.4%											

Intersection Total		Pct
One Hour Volumes		Trucks
3:30 PM	662	1.4%
3:45 PM	904	1.1%
4:00 PM	994	0.6%
4:15 PM	1043	0.5%
4:30 PM	801	0.5%
4:45 PM	559	0.5%

Intersection Total		Pct
	One Hour Volumes	Trucks
5:00 PM	281	0.4%
5:15 PM	0	
5:30 PM	0	

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th Avenue & Pines Road

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/6/2015
Counter Analyst
Judy BNG

Whipple Consulting Engineers, Inc
PM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	4:15 PM		4:30 PM		4:45 PM		5:00 PM				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left									0		
	Through	75	1	59		92	1	81		309	0.83	1%
	Right	11		6		14		17		48	0.71	0%
	App. Total	86	1	65	0	106	1	98	0	357	0.83	
	Pct Trucks		0.011494		0		0.009346		0			
Westbound	Left	19		12		15		16		62	0.82	0%
	Through	25		37		41		35		138	0.84	0%
	Right									0		
	App. Total	44	0	49	0	56	0	51	0	200	0.89	
	Pct Trucks		0		0		0		0			
Northbound	Left	4		8		2		6		20	0.63	0%
	Through									0		
	Right	38		44		36		44		162	0.92	0%
	App. Total	42	0	52	0	38	0	50	0	182	0.88	
	Pct Trucks		0		0		0		0			
Southbound	Left									0		
	Through	40		55		52		54		201	0.91	0%
	Right	29		20	1	24	1	27	1	103	0.89	3%
	App. Total	69	0	75	1	76	1	81	1	304	0.93	
	Pct Trucks		0		0.013158		0.012987		0.012195			
Total Intersection Volume		241	1	241	1	276	2	280	1	**1043**	**0.93**	
Intersection Pct Trucks			0.4%		0.4%		0.7%		0.4%			

Pedestrian Calls

APPROACH	MOVEMENT	4:15 PM		4:30 PM		4:45 PM		5:00 PM		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									**0**
Westbound	Through									**0**
N orthbound	Through									**0**
Southbound	Through									**0**
	App. Total	0	0	0	0	0	0	0	0	0

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th & SR27

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 1/28/2015

Counter: BNG
Analyst: BNG

AM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @																							
		6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left					51		2		68		47		55	1	35	1	34		81	1				
	Through					28		41	1	48		52		41	1	32		24		53	1				
	Right					4		2		6		6		6		7	1	2		5					
	App. Total	0	0	0	0	83	0	45	1	122	0	105	0	102	2	74	2	60	0	139	2	0	0	0	0
	Pct Trucks						0		0.022		0		0		0.019		0.026		0		0.014				
Westbound	Left					2		3		1				1		2		2		1					
	Through					20	1	51		52	3	45	1	36		23		24		44					
	Right					10		21		17		16		14		14		27		17	1				
	App. Total	0	0	0	0	32	1	75	0	70	3	61	1	51	0	39	0	53	0	62	1	0	0	0	0
	Pct Trucks						0.03		0		0.041		0.016		0		0		0		0.016				
Northbound	Left					17		14		15		12		8		7		16		9					
	Through					80	1	100	1	125	1	92		81	1	74	1	48	1	69	4				
	Right					2		7		1		7		3		3									
	App. Total	0	0	0	0	99	1	121	1	141	1	111	0	92	1	84	1	64	1	78	4	0	0	0	0
	Pct Trucks						0.01		0.008		0.007		0		0.011		0.012		0.015		0.049				
Southbound	Left					5		8		8		16		7		8		8		10					
	Through					11	4	27	2	20		21	1	27	1	16		26		27	3				
	Right													1											
	App. Total	0	0	0	0	16	4	35	2	28	0	37	1	35	1	24	0	34	0	37	3	0	0	0	0
	Pct Trucks						0.2		0.054		0		0.026		0.028		0		0		0.075				
Total Intersection Volume		0	0	0	0	230	6	276	4	361	4	314	2	280	4	221	3	211	1	316	10	0	0	0	0
Intersection Pct Trucks						2.5%		1.4%		1.1%		0.6%		1.4%		1.3%		0.5%		3.1%					

Intersection Total		Pct
One Hour Volumes		Trucks
6:30 AM	516	1.9%
6:45 AM	881	1.6%
7:00 AM	1197	1.3%
7:15 AM	1245	1.1%
7:30 AM	1189	1.1%
7:45 AM	1036	1.0%

Intersection Total		Pct
One Hour Volumes		Trucks
8:00 AM	1046	1.7%
8:15 AM	762	1.8%
8:30 AM	538	2.0%

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th & SR27

Data Transfer
Intersection No. 1

DATE OF COUNT: 1/28/2015
Counter Analyst
BNG BNG

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	2		68		47		55	1	173	0.64	1%
	Through	41	1	48		52		41	1	184	0.88	1%
	Right	2		6		6		6		20	0.83	0%
	App. Total	45	1	122	0	105	0	102	2	377	0.77	
	Pct Trucks		0.021739		0		0		0.019231			
Westbound	Left	3		1				1		5	0.42	0%
	Through	51		52	3	45	1	36		188	0.85	2%
	Right	21		17		16		14		68	0.81	0%
	App. Total	75	0	70	3	61	1	51	0	261	0.87	
	Pct Trucks		0		0.041096		0.016129		0			
Northbound	Left	14		15		12		8		49	0.82	0%
	Through	100	1	125	1	92		81	1	401	0.80	1%
	Right	7		1		7		3		18	0.64	0%
	App. Total	121	1	141	1	111	0	92	1	468	0.82	
	Pct Trucks		0.008197		0.007042		0		0.010753			
Southbound	Left	8		8		16		7		39	0.61	0%
	Through	27	2	20		21	1	27	1	99	0.85	4%
	Right							1		1	0.25	0%
	App. Total	35	2	28	0	37	1	35	1	139	0.91	
	Pct Trucks		0.054054		0		0.026316		0.027778			
Total Intersection Volume		276	4	361	4	314	2	280	4	**1245**	**0.85**	
Intersection Pct Trucks			1.4%		1.1%		0.6%		1.4%			

Pedestrian Calls

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through					3				**3**
Westbound	Through									**0**
N orthbound	Through									**0**
Southbound	Through									**0**
	App. Total	0	0	0	0	3	0	0	0	3

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th Avenue & SR 27

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/7/2015
Counter: RMA/JDK
Analyst: BNG

PM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @ 3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left									42	1	40	1	42		37	1	39		40					
	Through									60		63	3	64		64	1	52		58	1				
	Right									10		13		9		15		15		9					
	App. Total	0	0	0	0	0	0	0	0	112	1	116	4	115	0	116	2	106	0	107	1	0	0	0	0
	Pct Trucks										0.009		0.033		0		0.017		0		0.009				
Westbound	Left									2		1		3		5		4		2					
	Through									59		39	1	42		48		56		41					
	Right									1		1		4		1		0		1					
	App. Total	0	0	0	0	0	0	0	0	62	0	41	1	49	0	54	0	60	0	44	0	0	0	0	0
	Pct Trucks										0		0.024		0		0		0		0				
Northbound	Left									4		2		6		5		8		7					
	Through									59	1	59		82	1	51	1	52	1	55					
	Right									1		1		1		4			3	0					
	App. Total	0	0	0	0	0	0	0	0	64	1	62	0	89	1	60	1	60	4	62	0	0	0	0	0
	Pct Trucks										0.015		0		0.011		0.016		0.063		0				
Southbound	Left									13		27		24		14		17		16					
	Through									48		55		88		79		71		67					
	Right									0		0		0				0		0					
	App. Total	0	0	0	0	0	0	0	0	61	0	82	0	112	0	93	0	88	0	83	0	0	0	0	0
	Pct Trucks										0		0		0		0		0		0				
Total Intersection Volume		0	0	0	0	0	0	0	0	299	2	301	5	365	1	323	3	314	4	296	1	0	0	0	0
Intersection Pct Trucks										0.7%		1.6%		0.3%		0.9%		1.3%		0.3%					

Intersection Total One Hour Volumes		Pct Trucks
3:30 PM	0	
3:45 PM	301	0.7%
4:00 PM	607	1.2%
4:15 PM	973	0.8%
4:30 PM	1299	0.8%
4:45 PM	1316	1.0%

Intersection Total One Hour Volumes		Pct Trucks
5:00 PM	1307	0.7%
5:15 PM	941	0.9%
5:30 PM	615	0.8%

Notes:

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PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th Avenue & SR 27

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/7/2015
Counter Analyst
RMA/JDK BNG

Whipple Consulting Engineers, Inc
PM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	4:45 PM		5:00 PM		5:15 PM		5:30 PM				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	40	1	42		37	1	39		160	0.95	1%
	Through	63	3	64		64	1	52		247	0.94	2%
	Right	13		9		15		15		52	0.87	0%
	App. Total	116	4	115	0	116	2	106	0	459	0.96	
	Pct Trucks		0.033333		0		0.016949		0			
Westbound	Left	1		3		5		4		13	0.65	0%
	Through	39	1	42		48		56		186	0.83	1%
	Right	1		4		1		0		6	0.38	0%
	App. Total	41	1	49	0	54	0	60	0	205	0.85	
	Pct Trucks		0.02381		0		0		0			
Northbound	Left	2		6		5		8		21	0.66	0%
	Through	59		82	1	51	1	52	1	247	0.74	1%
	Right	1		1		4			3	9	0.56	33%
	App. Total	62	0	89	1	60	1	60	4	277	0.77	
	Pct Trucks		0		0.011111		0.016393		0.0625			
Southbound	Left	27		24		14		17		82	0.76	0%
	Through	55		88		79		71		293	0.83	0%
	Right	0		0				0		0		
	App. Total	82	0	112	0	93	0	88	0	375	0.84	
	Pct Trucks		0		0		0		0			
Total Intersection Volume		301	5	365	1	323	3	314	4	**1316**	**0.90**	
Intersection Pct Trucks			1.6%		0.3%		0.9%		1.3%			

Pedestrian Calls

APPROACH	MOVEMENT	4:45		5:00		5:15		5:30		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									0
Westbound	Through									0
N orthbound	Through							1		1
Southbound	Through									0
	App. Total	0	0	0	0	0	0	1	0	1

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd Avenue & Pines Road

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/8/2015
Counter: JDK
Analyst: BNG

AM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @ 6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left					7		3		5		2		5		4									
	Through					74	1	82	1	67	3	97	6	87	1	46									
	Right					1		0		0		1		2		4									
	App. Total	0	0	0	0	82	1	85	1	72	3	100	6	94	1	54	0	0	0	0	0	0	0	0	0
	Pct Trucks						0.012		0.012		0.04		0.057		0.011		0								
Westbound	Left					3		7		8		9	1	13		11									
	Through					75		93	2	93		94	7	100	1	48	2								
	Right					2		8	1	16	1	11	1	15		6									
	App. Total	0	0	0	0	80	0	108	3	117	1	114	9	128	1	65	2	0	0	0	0	0	0	0	0
	Pct Trucks						0		0.027		0.008		0.073		0.008		0.03								
Northbound	Left					9		13		13		8		9		10									
	Through					11		14		14		11		11		9									
	Right					9		14		22	3	29		31		15	1								
	App. Total	0	0	0	0	29	0	41	0	49	3	48	0	51	0	34	1	0	0	0	0	0	0	0	0
	Pct Trucks						0		0		0.058		0		0		0.029								
Southbound	Left					17		24		30	2	54	1	70		14									
	Through					3		10		2		10		11		5									
	Right					6		7		12		4		8		7									
	App. Total	0	0	0	0	26	0	41	0	44	2	68	1	89	0	26	0	0	0	0	0	0	0	0	0
	Pct Trucks						0		0		0.043		0.014		0		0								
Total Intersection Volume		0	0	0	0	217	1	275	4	282	9	330	16	362	2	179	3	0	0	0	0	0	0	0	0
Intersection Pct Trucks						0.5%		1.4%		3.1%		4.6%		0.5%		1.6%									

Intersection Total One Hour Volumes		Pct Trucks
6:30 AM	497	1.0%
6:45 AM	788	1.8%
7:00 AM	1134	2.6%
7:15 AM	1280	2.4%
7:30 AM	1183	2.5%
7:45 AM	892	2.4%

Intersection Total One Hour Volumes		Pct Trucks
8:00 AM	546	0.9%
8:15 AM	182	1.6%
8:30 AM	0	

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd Avenue & Pines Road

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/8/2015
Counter Analyst
JDK BNG

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	3		5		2		5		15	0.75	0%
	Through	82	1	67	3	97	6	87	1	344	0.83	3%
	Right	0		0		1		2		3	0.38	0%
	App. Total	85	1	72	3	100	6	94	1	362	0.85	
	Pct Trucks		0.011628		0.04		0.056604		0.010526			
Westbound	Left	7		8		9	1	13		38	0.73	3%
	Through	93	2	93		94	7	100	1	390	0.97	3%
	Right	8	1	16	1	11	1	15		53	0.78	6%
	App. Total	108	3	117	1	114	9	128	1	481	0.93	
	Pct Trucks		0.027027		0.008475		0.073171		0.007752			
Northbound	Left	13		13		8		9		43	0.83	0%
	Through	14		14		11		11		50	0.89	0%
	Right	14		22	3	29		31		99	0.80	3%
	App. Total	41	0	49	3	48	0	51	0	192	0.92	
	Pct Trucks		0		0.057692		0		0			
Southbound	Left	24		30	2	54	1	70		181	0.65	2%
	Through	10		2		10		11		33	0.75	0%
	Right	7		12		4		8		31	0.65	0%
	App. Total	41	0	44	2	68	1	89	0	245	0.69	
	Pct Trucks		0		0.043478		0.014493		0			
Total Intersection Volume		275	4	282	9	330	16	362	2	**1280**	**0.88**	
Intersection Pct Trucks			1.4%		3.1%		4.6%		0.5%			

Pedestrian Calls

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through	6		9		3		2		**20**
Westbound	Through	2		5		6		5		**18**
N orthbound	Through	4		5		8		8		**25**
Southbound	Through	4		6		3				**13**
	App. Total	16	0	25	0	20	0	15	0	76

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd Avenue & Pines Road

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/6/2015

Counter: BNG
Analyst: BNG

PM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @																							
		3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left			15		7		10		7		11		5											
	Through			119	1	70	2	131	1	88	2	141		77	1										
	Right			8		5		13		10		11		9											
	App. Total	0	0	142	1	82	2	154	1	105	2	163	0	91	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.007		0.024		0.006		0.019		0		0.011										
Westbound	Left			10		16		18		13		23		13											
	Through			72	2	58	1	94	1	70		110		62											
	Right			7		10		13		6		12		8											
	App. Total	0	0	89	2	84	1	125	1	89	0	145	0	83	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.022		0.012		0.008		0		0		0										
Northbound	Left			7	1	6		7		12		19		8											
	Through			9		4		16		6		12		11											
	Right			12		18		15		5		12		12											
	App. Total	0	0	28	1	28	0	38	0	23	0	43	0	31	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.034		0		0		0		0		0										
Southbound	Left			24		9		13		15		18		8											
	Through			13		12		20		17		23		13											
	Right			9		10		6		6		8		9											
	App. Total	0	0	46	0	31	0	39	0	38	0	49	0	30	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0		0		0		0		0		0										
Total Intersection Volume		0	0	305	4	225	3	356	2	255	2	400	0	235	1	0	0	0	0	0	0	0	0	0	0
Intersection Pct Trucks				1.3%		1.3%		0.6%		0.8%		0.0%		0.4%											

Intersection Total One Hour Volumes		Pct Trucks
3:30 PM	895	1.0%
3:45 PM	1152	1.0%
4:00 PM	1243	0.6%
4:15 PM	1251	0.4%
4:30 PM	893	0.3%
4:45 PM	636	0.2%

Intersection Total One Hour Volumes		Pct Trucks
5:00 PM	236	0.4%
5:15 PM	0	
5:30 PM	0	

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd Avenue & Pines Road

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/6/2015
Counter Analyst
BNG BNG

Whipple Consulting Engineers, Inc
PM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	4:15 PM		4:30 PM		4:45 PM		5:00 PM				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	10		7		11		5		33	0.75	0%
	Through	131	1	88	2	141		77	1	441	0.78	1%
	Right	13		10		11		9		43	0.83	0%
	App. Total	154	1	105	2	163	0	91	1	517	0.79	
	Pct Trucks		0.006452		0.018692		0		0.01087			
Westbound	Left	18		13		23		13		67	0.73	0%
	Through	94	1	70		110		62		337	0.77	0%
	Right	13		6		12		8		39	0.75	0%
	App. Total	125	1	89	0	145	0	83	0	443	0.76	
	Pct Trucks		0.007937		0		0		0			
Northbound	Left	7		12		19		8		46	0.61	0%
	Through	16		6		12		11		45	0.70	0%
	Right	15		5		12		12		44	0.73	0%
	App. Total	38	0	23	0	43	0	31	0	135	0.78	
	Pct Trucks		0		0		0		0			
Southbound	Left	13		15		18		8		54	0.75	0%
	Through	20		17		23		13		73	0.79	0%
	Right	6		6		8		9		29	0.81	0%
	App. Total	39	0	38	0	49	0	30	0	156	0.80	
	Pct Trucks		0		0		0		0			
Total Intersection Volume		356	2	255	2	400	0	235	1	**1251**	**0.78**	
Intersection Pct Trucks			0.6%		0.8%		0.0%		0.4%			

Pedestrian Calls

APPROACH	MOVEMENT	4:15 PM		4:30 PM		4:45 PM		5:00 PM		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									**0**
Westbound	Through	1			1			1		**3**
N orthbound	Through	2				1	1	1		**5**
Southbound	Through					1				**1**
	App. Total	3	0	0	1	2	1	2	0	9

PROJECT: Painted Hills PRD
JOB NO. 13-1166
INTERSECTION: Madison & Thorpe

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 3/11/2015

Counter: RMA
Analyst: RMA

AM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @ 6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left							19		21		24	3	8											
	Through																								
	Right							3		3		3		1											
	App. Total	0	0	0	0	0	0	22	0	24	0	27	3	9	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks								0		0		0.1		0										
Westbound	Left																								
	Through																								
	Right																								
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks																								
Northbound	Left							15		15	1	10		8											
	Through							15		18		19		9											
	Right																								
	App. Total	0	0	0	0	0	0	30	0	33	1	29	0	17	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks								0		0.029		0		0										
Southbound	Left																								
	Through							3		9		6		6											
	Right							8		13		17		13											
	App. Total	0	0	0	0	0	0	11	0	22	0	23	0	19	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks								0		0		0		0										
Total Intersection Volume		0	0	0	0	0	0	63	0	79	1	79	3	45	0	0	0	0	0	0	0	0	0	0	0
Intersection Pct Trucks								0.0%		1.3%		3.7%		0.0%											

Intersection Total One Hour Volumes		Pct Trucks
6:30 AM	63	0.0%
6:45 AM	143	0.7%
7:00 AM	225	1.8%
7:15 AM	270	1.5%
7:30 AM	207	1.9%
7:45 AM	127	2.4%

Intersection Total One Hour Volumes		Pct Trucks
8:00 AM	45	0.0%
8:15 AM	0	
8:30 AM	0	

Notes:

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PROJECT: Painted Hills PRD
JOB NO. 13-1166
INTERSECTION: Madison & Thorpe

Data Transfer
Intersection No. 1

DATE OF COUNT: 3/11/2015
Counter
RMA

Analyst
RMA

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	19		21		24	3	8		75	0.69	4%
	Through									0		
	Right	3		3		3		1		10	0.83	0%
	App. Total	22	0	24	0	27	3	9	0	85	0.71	
	Pct Trucks		0		0		0.1		0			
Westbound	Left									0		
	Through									0		
	Right									0		
	App. Total	0	0	0	0	0	0	0	0	0		
	Pct Trucks											
Northbound	Left	15		15	1	10		8		49	0.77	2%
	Through	15		18		19		9		61	0.80	0%
	Right									0		
	App. Total	30	0	33	1	29	0	17	0	110	0.81	
	Pct Trucks		0		0.029412		0		0			
Southbound	Left									0		
	Through	3		9		6		6		24	0.67	0%
	Right	8		13		17		13		51	0.75	0%
	App. Total	11	0	22	0	23	0	19	0	75	0.82	
	Pct Trucks		0		0		0		0			
Total Intersection Volume		63	0	79	1	79	3	45	0	270	**0.82**	
Intersection Pct Trucks			0.0%		1.3%		3.7%		0.0%			

Pedestrian Calls

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									0
Westbound	Through									0
N orthbound	Through									0
Southbound	Through									0
	App. Total	0	0	0	0	0	0	0	0	0

PROJECT: Painted Hills PRD
JOB NO. 13-1166
INTERSECTION: Madison & Thorpe

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 3/11/2015

Counter: RMA
Analyst: RMA

PM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @ 3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left													8	1	5		3		4					
	Through																								
	Right													10		11		9		13					
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	18	1	16	0	12	0	17	0	0	0	0	0
	Pct Trucks														0.053		0		0		0				
Westbound	Left																								
	Through																								
	Right																								
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks																								
Northbound	Left													3		7		8		6					
	Through													5		12		11		5					
	Right																								
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	8	0	19	0	19	0	11	0	0	0	0	0
	Pct Trucks														0		0		0		0				
Southbound	Left																								
	Through													24		17		18		14					
	Right													13		6		2		4					
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	37	0	23	0	20	0	18	0	0	0	0	0
	Pct Trucks														0		0		0		0				
Total Intersection Volume		0	0	0	0	0	0	0	0	0	0	0	0	63	1	58	0	51	0	46	0	0	0	0	0
Intersection Pct Trucks														1.6%		0.0%		0.0%		0.0%					

Intersection Total One Hour Volumes		Pct Trucks
3:30 PM	0	
3:45 PM	0	
4:00 PM	0	
4:15 PM	64	1.6%
4:30 PM	122	0.8%
4:45 PM	173	0.6%

Intersection Total One Hour Volumes		Pct Trucks
5:00 PM	219	0.5%
5:15 PM	155	0.0%
5:30 PM	97	0.0%

Notes:

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PROJECT: Painted Hills PRD
JOB NO. 13-1166
INTERSECTION: Madison & Thorpe

Data Transfer
Intersection No. 1

DATE OF COUNT: 3/11/2015
Counter
RMA

Analyst
RMA

Whipple Consulting Engineers, Inc
PM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	5:00 PM		5:15 PM		5:30 PM		5:45 PM				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	8	1	5		3		4		21	0.58	5%
	Through									0		
	Right	10		11		9		13		43	0.83	0%
	App. Total	18	1	16	0	12	0	17	0	64	0.84	
	Pct Trucks		0.052632		0		0		0			
Westbound	Left									0		
	Through									0		
	Right									0		
	App. Total	0	0	0	0	0	0	0	0	0		
	Pct Trucks											
Northbound	Left	3		7		8		6		24	0.75	0%
	Through	5		12		11		5		33	0.69	0%
	Right									0		
	App. Total	8	0	19	0	19	0	11	0	57	0.75	
	Pct Trucks		0		0		0		0			
Southbound	Left									0		
	Through	24		17		18		14		73	0.76	0%
	Right	13		6		2		4		25	0.48	0%
	App. Total	37	0	23	0	20	0	18	0	98	0.66	
	Pct Trucks		0		0		0		0			
Total Intersection Volume		63	1	58	0	51	0	46	0	219	**0.86**	
Intersection Pct Trucks			1.6%		0.0%		0.0%		0.0%			

Pedestrian Calls

APPROACH	MOVEMENT	5:00 PM		5:15 PM		5:30 PM		5:45 PM		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									0
Westbound	Through									0
N orthbound	Through									0
Southbound	Through									0
	App. Total	0	0	0	0	0	0	0	0	0

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & HWY 27

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/8/2015
Counter: BNG
Analyst: BNG

AM PEAK HOURS

15 Minute Period Beginning @

APPROACH	MOVEMENT	6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left					9		28	1	31		36		28	1	25	1								
	Through					37	1	45		55	2	55	2	59	3	44									
	Right					13		13		12	1	6	2	21		18	1								
	App. Total	0	0	0	0	59	1	86	1	98	3	97	4	108	4	87	2	0	0	0	0	0	0	0	0
	Pct Trucks						0.017		0.011		0.03		0.04		0.036		0.022								
Westbound	Left					7		17	1	13	2	21		5		10	2								
	Through					37		48	3	36		48	2	54		30	1								
	Right					5		11		20	1	22		12		16									
	App. Total	0	0	0	0	49	0	76	4	69	3	91	2	71	0	56	3	0	0	0	0	0	0	0	0
	Pct Trucks						0		0.05		0.042		0.022		0		0.051								
Northbound	Left					16		35	1	21	2	24		31		22									
	Through					38		67		82	1	46	5	56	1	46	2								
	Right					25		23		48	1	24		30		31									
	App. Total	0	0	0	0	79	0	125	1	151	4	94	5	117	1	99	2	0	0	0	0	0	0	0	0
	Pct Trucks						0		0.008		0.026		0.051		0.008		0.02								
Southbound	Left					1		3		7		8		4		5									
	Through					20	1	22	2	18	1	15	1	19		21	2								
	Right					4		14		15	2	16	3	22		8									
	App. Total	0	0	0	0	25	1	39	2	40	3	39	4	45	0	34	2	0	0	0	0	0	0	0	0
	Pct Trucks						0.038		0.049		0.07		0.093		0		0.056								
Total Intersection Volume		0	0	0	0	212	2	326	8	358	13	321	15	341	5	276	9	0	0	0	0	0	0	0	0
Intersection Pct Trucks						0.9%		2.4%		3.5%		4.5%		1.4%		3.2%									

Intersection Total One Hour Volumes		Pct Trucks
6:30 AM	548	1.8%
6:45 AM	919	2.5%
7:00 AM	1255	3.0%
7:15 AM	1387	3.0%
7:30 AM	1338	3.1%
7:45 AM	967	3.0%

Intersection Total One Hour Volumes		Pct Trucks
8:00 AM	631	2.2%
8:15 AM	285	3.2%
8:30 AM	0	

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & HWY 27

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/8/2015
Counter BNG
Analyst BNG

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	28	1	31		36		28	1	125	0.87	2%
	Through	45		55	2	55	2	59	3	221	0.89	3%
	Right	13		12	1	6	2	21		55	0.65	5%
	App. Total	86	1	98	3	97	4	108	4	401	0.90	
	Pct Trucks		0.011494		0.029703		0.039604		0.035714			
Westbound	Left	17	1	13	2	21		5		59	0.70	5%
	Through	48	3	36		48	2	54		191	0.88	3%
	Right	11		20	1	22		12		66	0.75	2%
	App. Total	76	4	69	3	91	2	71	0	316	0.85	
	Pct Trucks		0.05		0.041667		0.021505		0			
Northbound	Left	35	1	21	2	24		31		114	0.79	3%
	Through	67		82	1	46	5	56	1	258	0.78	3%
	Right	23		48	1	24		30		126	0.64	1%
	App. Total	125	1	151	4	94	5	117	1	498	0.80	
	Pct Trucks		0.007937		0.025806		0.050505		0.008475			
Southbound	Left	3		7		8		4		22	0.69	0%
	Through	22	2	18	1	15	1	19		78	0.81	5%
	Right	14		15	2	16	3	22		72	0.82	7%
	App. Total	39	2	40	3	39	4	45	0	172	0.96	
	Pct Trucks		0.04878		0.069767		0.093023		0			
Total Intersection Volume		326	8	358	13	321	15	341	5	**1387**	**0.93**	
Intersection Pct Trucks			2.4%		3.5%		4.5%		1.4%			

Pedestrian Calls

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									**0**
Westbound	Through									**0**
N orthbound	Through	1		3						**4**
Southbound	Through									**0**
	App. Total	1	0	3	0	0	0	0	0	4

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & HWY 27

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/6/2015
Counter: RMA/JDK
Analyst: BNG

PM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @																							
		3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left			11		9		20		19		21		19											
	Through			66	3	70	2	69	1	60	2	81	2	81	1										
	Right			33		20		35		33		54		46											
	App. Total	0	0	110	3	99	2	124	1	112	2	156	2	146	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.027		0.02		0.008		0.018		0.013		0.007										
Westbound	Left			30		30	1	31	1	31		43		36	1										
	Through			65	2	69	2	50	1	71	1	92		90	1										
	Right			7		8		10		6		14		10											
	App. Total	0	0	102	2	107	3	91	2	108	1	149	0	136	2	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.019		0.027		0.022		0.009		0		0.014										
Northbound	Left			21		18	1	23		28		31		31											
	Through			39	1	32		25	2	39	1	45		41	1										
	Right			26		19	1	22	2	15	2	37	2	16											
	App. Total	0	0	86	1	69	2	70	4	82	3	113	2	88	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.011		0.028		0.054		0.035		0.017		0.011										
Southbound	Left			9		9		9		10		10		11											
	Through			48	2	51		44	1	51		48		52	1										
	Right			7		20		11		20		17		15											
	App. Total	0	0	64	2	80	0	64	1	81	0	75	0	78	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.03		0		0.015		0		0		0.013										
Total Intersection Volume		0	0	362	8	355	7	349	8	383	6	493	4	448	5	0	0	0	0	0	0	0	0	0	0
Intersection Pct Trucks				2.2%		1.9%		2.2%		1.5%		0.8%		1.1%											

Intersection Total One Hour Volumes		Pct Trucks
3:30 PM	1089	2.1%
3:45 PM	1478	2.0%
4:00 PM	1605	1.6%
4:15 PM	1696	1.4%
4:30 PM	1339	1.1%
4:45 PM	950	0.9%

Intersection Total One Hour Volumes		Pct Trucks
5:00 PM	453	1.1%
5:15 PM	0	
5:30 PM	0	

Notes:

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PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & HWY 27

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/6/2015
Counter Analyst
RMA/JDK BNG

Whipple Consulting Engineers, Inc
PM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	4:15 PM		4:30 PM		4:45 PM		5:00 PM				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	20		19		21		19		79	0.94	0%
	Through	69	1	60	2	81	2	81	1	297	0.89	2%
	Right	35		33		54		46		168	0.78	0%
	App. Total	124	1	112	2	156	2	146	1	544	0.86	
	Pct Trucks		0.008		0.017544		0.012658		0.006803			
Westbound	Left	31	1	31		43		36	1	143	0.83	1%
	Through	50	1	71	1	92		90	1	306	0.83	1%
	Right	10		6		14		10		40	0.71	0%
	App. Total	91	2	108	1	149	0	136	2	489	0.82	
	Pct Trucks		0.021505		0.009174		0		0.014493			
Northbound	Left	23		28		31		31		113	0.91	0%
	Through	25	2	39	1	45		41	1	154	0.86	3%
	Right	22	2	15	2	37	2	16		96	0.62	6%
	App. Total	70	4	82	3	113	2	88	1	363	0.79	
	Pct Trucks		0.054054		0.035294		0.017391		0.011236			
Southbound	Left	9		10		10		11		40	0.91	0%
	Through	44	1	51		48		52	1	197	0.93	1%
	Right	11		20		17		15		63	0.79	0%
	App. Total	64	1	81	0	75	0	78	1	300	0.93	
	Pct Trucks		0.015385		0		0		0.012658			
Total Intersection Volume		349	8	383	6	493	4	448	5	**1696**	**0.85**	
Intersection Pct Trucks			2.2%		1.5%		0.8%		1.1%			

Pedestrian Calls

APPROACH	MOVEMENT	4:15 PM		4:30 PM		4:45 PM		5:00 PM		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through	1		1		2		2		**6**
Westbound	Through									**0**
N orthbound	Through									**0**
Southbound	Through			1		1		1		**3**
	App. Total	1	0	2	0	3	0	3	0	**9**

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & Evergreen

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 1/27/2015

Counter	Analyst
BNG	BNG

AM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @																							
		6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left					19	1	35		50	3	55		44	1	39		32	1	29	1				
	Through					33	1	34		46	2	43	1	48		45		35	1	49					
	Right															2									
	App. Total	0	0	0	0	52	2	69	0	96	5	98	1	92	1	86	0	67	2	78	1	0	0	0	0
	Pct Trucks						0.037		0		0.05		0.01		0.011		0		0.029		0.013				
Westbound	Left																								
	Through					46		40		52	2	44		47	3	40	4	30		44					
	Right					8		7		6		3		8		4		2		2					
	App. Total	0	0	0	0	54	0	47	0	58	2	47	0	55	3	44	4	32	0	46	0	0	0	0	0
	Pct Trucks						0		0		0.033		0		0.052		0.083		0		0				
Northbound	Left																								
	Through																								
	Right																								
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks																								
Southbound	Left					1				2		1		2				1	1						
	Through																								
	Right					21		13	3	30		24	1	25		15	3	13	1	25	1				
	App. Total	0	0	0	0	22	0	13	3	32	0	25	1	27	0	15	3	14	2	25	1	0	0	0	0
	Pct Trucks						0		0.188		0		0.038		0		0.167		0.125		0.038				
Total Intersection Volume		0	0	0	0	128	2	129	3	186	7	170	2	174	4	145	7	113	4	149	2	0	0	0	0
Intersection Pct Trucks						1.5%		2.3%		3.6%		1.2%		2.2%		4.6%		3.4%		1.3%					

Intersection Total		Pct
One Hour Volumes		Trucks
6:30 AM	262	1.9%
6:45 AM	455	2.6%
7:00 AM	627	2.2%
7:15 AM	675	2.4%
7:30 AM	695	2.9%
7:45 AM	619	2.7%

Intersection Total		Pct
One Hour Volumes		Trucks
8:00 AM	598	2.8%
8:15 AM	420	3.1%
8:30 AM	268	2.2%

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & Evergreen

Data Transfer
Intersection No. 1

DATE OF COUNT: 1/27/2015
Counter BNG
Analyst BNG

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:30		7:45		8:00		8:15				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	50	3	55		44	1	39		192	0.87	2%
	Through	46	2	43	1	48		45		185	0.96	2%
	Right							2		2	0.25	0%
	App. Total	96	5	98	1	92	1	86	0	379	0.94	
	Pct Trucks		0.049505		0.010101		0.010753		0			
Westbound	Left									0		
	Through	52	2	44		47	3	40	4	192	0.89	5%
	Right	6		3		8		4		21	0.66	0%
	App. Total	58	2	47	0	55	3	44	4	213	0.89	
	Pct Trucks		0.033333		0		0.051724		0.083333			
Northbound	Left									0		
	Through									0		
	Right									0		
	App. Total	0	0	0	0	0	0	0	0	0		
	Pct Trucks											
Southbound	Left	2		1		2				5	0.63	0%
	Through									0		
	Right	30		24	1	25		15	3	98	0.82	4%
	App. Total	32	0	25	1	27	0	15	3	103	0.80	
	Pct Trucks		0		0.038462		0		0.166667			
Total Intersection Volume		186	7	170	2	174	4	145	7	695	**0.90**	
Intersection Pct Trucks			3.6%		1.2%		2.2%		4.6%			

Pedestrian Calls

APPROACH	MOVEMENT	7:30		7:45		8:00		8:15		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									0
Westbound	Through									0
N orthbound	Through									0
Southbound	Through									0
	App. Total	0	0	0	0	0	0	0	0	0

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd Avenue & Evergreen Road

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/8/2015
Counter: Analyst: BNG

PM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @																							
		3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left									37	1	45		41	1	42		49	1	28					
	Through									44		82	1	74	2	105		82		71	1				
	Right																								
	App. Total	0	0	0	0	0	0	0	0	81	1	127	1	115	3	147	0	131	1	99	1	0	0	0	0
	Pct Trucks										0.012		0.008		0.025		0		0.008		0.01				
Westbound	Left																								
	Through									79	1	73		91	1	94		76		74	1				
	Right									2		6		1		2		1		3					
	App. Total	0	0	0	0	0	0	0	0	81	1	79	0	92	1	96	0	77	0	77	1	0	0	0	0
	Pct Trucks										0.012		0		0.011		0		0		0.013				
Northbound	Left																								
	Through																								
	Right																								
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks																								
Southbound	Left									2		1		2		7	5			5					
	Through																								
	Right									41	1	47	1	43		44	36	1		49	1				
	App. Total	0	0	0	0	0	0	0	0	43	1	48	1	45	0	51	41	1	0	54	1	0	0	0	0
	Pct Trucks										0.023		0.02		0		0.446		0		0.018				
Total Intersection Volume		0	0	0	0	0	0	0	0	205	3	254	2	252	4	294	41	209	1	230	3	0	0	0	0
Intersection Pct Trucks										1.4%		0.8%		1.6%		12.2%		0.5%		1.3%					

Intersection Total		Pct
One Hour Volumes		Trucks
3:30 PM	0	
3:45 PM	208	1.4%
4:00 PM	464	1.1%
4:15 PM	720	1.3%
4:30 PM	1055	4.7%
4:45 PM	1057	4.5%

Intersection Total		Pct
	One Hour Volumes	Trucks
5:00 PM	1034	4.7%
5:15 PM	778	5.8%
5:30 PM	443	0.9%

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd Avenue & Evergreen Road

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/8/2015
Counter Analyst
0 BNG

Whipple Consulting Engineers, Inc
PM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	4:45 PM		5:00 PM		5:15 PM		5:30 PM		TOTAL	P.H.F.	Pct Trucks
		pass	trk	pass	trk	pass	trk	pass	trk			
Eastbound	Left	45		41	1	42		49	1	179	0.90	1%
	Through	82	1	74	2	105		82		346	0.82	1%
	Right									0		
	App. Total	127	1	115	3	147	0	131	1	525	0.89	
	Pct Trucks		0.007813		0.025424		0		0.007576			
Westbound	Left									0		
	Through	73		91	1	94		76		335	0.89	0%
	Right	6		1		2		1		10	0.42	0%
	App. Total	79	0	92	1	96	0	77	0	345	0.90	
	Pct Trucks		0		0.010753		0		0			
Northbound	Left									0		
	Through									0		
	Right									0		
	App. Total	0	0	0	0	0	0	0	0	0		
	Pct Trucks											
Southbound	Left	1		2		7	5			15	0.31	33%
	Through									0		
	Right	47	1	43		44	36	1		172	0.54	22%
	App. Total	48	1	45	0	51	41	1	0	187	0.51	
	Pct Trucks		0.020408		0		0.445652		0			
Total Intersection Volume		254	2	252	4	294	41	209	1	1057	**0.79**	
Intersection Pct Trucks			0.8%		1.6%		12.2%		0.5%			

Pedestrian Calls

APPROACH	MOVEMENT	4:45		5:00		5:15		5:30		TOTAL
		ped	bike	ped	bike	ped	bike	ped	bike	
Eastbound	Through									0
Westbound	Through									0
N orthbound	Through							1		1
Southbound	Through									0
	App. Total	0	0	0	0	0	0	1	0	1

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & Sullivan

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 1/27/2015

Counter: JDK
Analyst: BNG

AM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @ 6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left					33	1	26	2	56	1	38	1	38	1	46		26	1	45	1				
	Through																								
	Right					1				1		1		4		3		1		1					
	App. Total	0	0	0	0	34	1	26	2	57	1	39	1	42	1	49	0	27	1	46	1	0	0	0	0
	Pct Trucks						0.029		0.071		0.017		0.025		0.023		0		0.036		0.021				
Westbound	Left																								
	Through																								
	Right																								
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks																								
Northbound	Left					4		5		4		4		2		4		7		6					
	Through					13		19		26		21		12		15		26		14	1				
	Right																								
	App. Total	0	0	0	0	17	0	24	0	30	0	25	0	14	0	19	0	33	0	20	1	0	0	0	0
	Pct Trucks						0		0		0		0		0		0		0		0.048				
Southbound	Left																								
	Through					2		8		5		6		5		6		4		13	1				
	Right					33	1	30		44	3	27	1	36	4	23	4	28		27	3				
	App. Total	0	0	0	0	35	1	38	0	49	3	33	1	41	4	29	4	32	0	40	4	0	0	0	0
	Pct Trucks						0.028		0		0.058		0.029		0.089		0.121		0		0.091				
Total Intersection Volume		0	0	0	0	86	2	88	2	136	4	97	2	97	5	97	4	92	1	106	6	0	0	0	0
Intersection Pct Trucks						2.3%		2.2%		2.9%		2.0%		4.9%		4.0%		1.1%		5.4%					

Intersection Total One Hour Volumes		Pct Trucks
6:30 AM	178	2.2%
6:45 AM	318	2.5%
7:00 AM	417	2.4%
7:15 AM	431	3.0%
7:30 AM	442	3.4%
7:45 AM	395	3.0%

Intersection Total One Hour Volumes		Pct Trucks
8:00 AM	408	3.9%
8:15 AM	306	3.6%
8:30 AM	205	3.4%

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & Sullivan

Data Transfer
Intersection No. 1

DATE OF COUNT: 1/27/2015
Counter Analyst
JDK BNG

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:30		7:45		8:00		8:15				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	56	1	38	1	38	1	46		181	0.79	2%
	Through									0		
	Right	1		1		4		3		9	0.56	0%
	App. Total	57	1	39	1	42	1	49	0	190	0.82	
	Pct Trucks		0.017241		0.025		0.023256		0			
Westbound	Left									0		
	Through									0		
	Right									0		
	App. Total	0	0	0	0	0	0	0	0	0		
	Pct Trucks											
Northbound	Left	4		4		2		4		14	0.88	0%
	Through	26		21		12		15		74	0.71	0%
	Right									0		
	App. Total	30	0	25	0	14	0	19	0	88	0.73	
	Pct Trucks		0		0		0		0			
Southbound	Left									0		
	Through	5		6		5		6		22	0.92	0%
	Right	44	3	27	1	36	4	23	4	142	0.76	8%
	App. Total	49	3	33	1	41	4	29	4	164	0.79	
	Pct Trucks		0.057692		0.029412		0.088889		0.121212			
Total Intersection Volume		136	4	97	2	97	5	97	4	442	0.79	
Intersection Pct Trucks			2.9%		2.0%		4.9%		4.0%			

Pedestrian Calls

APPROACH	MOVEMENT	7:30		7:45		8:00		8:15		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									0
Westbound	Through									0
N orthbound	Through									0
Southbound	Through									0
	App. Total	0	0	0	0	0	0	0	0	0

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd Avenue & Sullivan Road

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/8/2015

Counter: BNG
Analyst: BNG

PM PEAK HOURS

		15 Minute Period Beginning @																							
APPROACH	MOVEMENT	3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left			54	3	50	2	45	1	66	2	63	1	63	1										
	Through																								
	Right			6		5		3		1		6		5											
	App. Total	0	0	60	3	55	2	48	1	67	2	69	1	68	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.048		0.035		0.02		0.029		0.014		0.014										
Westbound	Left																								
	Through																								
	Right																								
	App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks																								
Northbound	Left			1		3		5		2		5		9											
	Through			13	2	17		10	1	17		9		11											
	Right																								
	App. Total	0	0	14	2	20	0	15	1	19	0	14	0	20	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.125		0		0.063		0		0		0										
Southbound	Left																								
	Through			30		18		21		19		24		24											
	Right			63	1	50	2	72	1	79		61	1	81											
	App. Total	0	0	93	1	68	2	93	1	98	0	85	1	105	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.011		0.029		0.011		0		0.012		0										
Total Intersection Volume		0	0	167	6	143	4	156	3	184	2	168	2	193	1	0	0	0	0	0	0	0	0	0	0
Intersection Pct Trucks				3.5%		2.7%		1.9%		1.1%		1.2%		0.5%											

Intersection Total		Pct
One Hour Volumes		Trucks
3:30 PM	479	2.7%
3:45 PM	665	2.3%
4:00 PM	662	1.7%
4:15 PM	709	1.1%
4:30 PM	550	0.9%
4:45 PM	364	0.8%

Intersection Total		Pct
	One Hour Volumes	Trucks
5:00 PM	194	0.5%
5:15 PM	0	
5:30 PM	0	

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd Avenue & Sullivan Road

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/8/2015
Counter Analyst
BNG BNG

Whipple Consulting Engineers, Inc
PM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	4:15 PM		4:30 PM		4:45 PM		5:00 PM				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	45	1	66	2	63	1	63	1	242	0.89	2%
	Through									0		
	Right	3		1		6		5		15	0.63	0%
	App. Total	48	1	67	2	69	1	68	1	257	0.92	
	Pct Trucks		0.020408		0.028986		0.014286		0.014493			
Westbound	Left									0		
	Through									0		
	Right									0		
	App. Total	0	0	0	0	0	0	0	0	0		
	Pct Trucks											
Northbound	Left	5		2		5		9		21	0.58	0%
	Through	10	1	17		9		11		48	0.71	2%
	Right									0		
	App. Total	15	1	19	0	14	0	20	0	69	0.86	
	Pct Trucks		0.0625		0		0		0			
Southbound	Left									0		
	Through	21		19		24		24		88	0.92	0%
	Right	72	1	79		61	1	81		295	0.91	1%
	App. Total	93	1	98	0	85	1	105	0	383	0.91	
	Pct Trucks		0.010638		0		0.011628		0			
Total Intersection Volume		156	3	184	2	168	2	193	1	**709**	**0.91**	
Intersection Pct Trucks			1.9%		1.1%		1.2%		0.5%			

Pedestrian Calls

APPROACH	MOVEMENT	4:15 PM		4:30 PM		4:45 PM		5:00 PM		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									**0**
Westbound	Through									**0**
N orthbound	Through							1		**1**
Southbound	Through									**0**
	App. Total	0	0	0	0	0	0	1	0	1

INTERNAL TRIPS

Whipple Consulting Engineers
Multi-Use Trip Generation Worksheet
Project Painted Hills
Project # 13-1166
Analyst BNG
Date 9/9/2016
Peak Hour **AM**

Legend	
31%	Percentages from ITE Handbook Tables 7.1and 7.2 or engineering judgment based on project characteristics
475	From LUC Trip Genration Tables
25	User Defined Balance

LAND USE A **Retail**

ITE LUC	820		
Size	13.4 ksf		
	Total	Internal	External
Enter	8	0	8
Exit	5	0	5
Total	13	0	13
%	100%	0%	100%

External: Exit 5, Enter 8

Demand 3% 0 | Balance 0 | Demand 37% 10
Demand 5% 0 | Balance 0 | Demand 34% 39
Demand 7% 0 | Balance 0 | Demand 37% 14
Demand 5% 0 | Balance 0 | Demand 34% 39

LAND USE B **Multi Family**

ITE LUC	220		
Size	228 units +52 units		
	Total	Internal	External
Enter	28	0	28
Exit	116	0	116
Total	144	0	144
%	100%	0%	100%

External: Exit 116, Enter 28

Demand 0% 0 | Balance 0 | Demand 0% 0
Demand 0% 0 | Balance 0 | Demand 0% 0

LAND USE C **Residential**

ITE LUC	210		
Size	206 units		
	Total	Internal	External
Enter	39	0	39
Exit	115	0	115
Total	154	0	154
%	100%	0%	100%

External: Exit 115, Enter 39

Net External Trips for Multi-Use Development				
	Land Use A	Land Use B	Land Use C	TOTAL
Enter	8	28	39	75
Exit	5	116	115	236
Total	13	144	154	311
Single-use Trip Gen Est.	13	144	154	311

INTERNAL CAPTURE **0%**

Whipple Consulting Engineers
Multi-Use Trip Generation Worksheet
Project Painted Hills
Project # 13-1166
Analyst BNG
Date 9/9/2016
Peak Hour **PM**

Legend	
31%	Percentages from ITE Handbook Tables 7.1and 7.2 or engineering judgment based on project characteristics
475	From LUC Trip Genration Tables
25	User Defined Balance

LAND USE A Retail

ITE LUC	820		
Size	13.4 ksf		
	Total	Internal	External
Enter	24	4	20
Exit	26	6	20
Total	50	10	40
%	100%	20%	80%

External: Exit 20, Enter 20

Demand 12% 3 | Balance 3 | Demand 31% 35

Demand 9% 2 | Balance 2 | Demand 53% 33

Demand 12% 3 | Balance 3 | Demand 31% 39

Demand 9% 2 | Balance 2 | Demand 53% 40

LAND USE B Multi Family

ITE LUC	220		
Size	228 units +52 units		
	Total	Internal	External
Enter	113	3	110
Exit	62	2	60
Total	175	5	170
%	100%	3%	97%

External: Exit 60, Enter 110

Demand 0% 0 | Balance 0 | Demand 0% 0

Demand 0% 0 | Balance 0 | Demand 0% 0

LAND USE C Residential

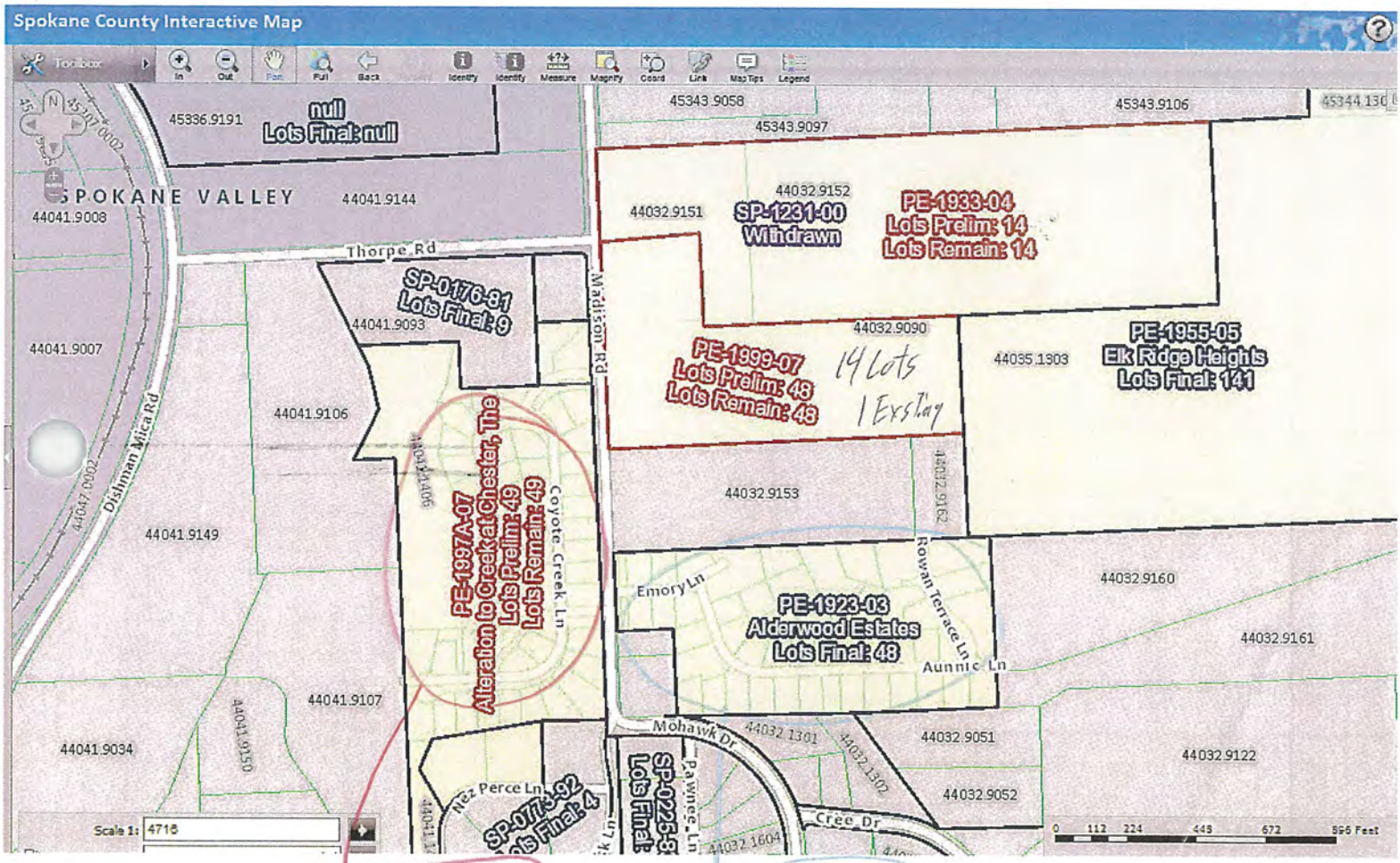
ITE LUC	210		
Size	206 units		
	Total	Internal	External
Enter	127	3	124
Exit	75	2	73
Total	202	5	197
%	100%	2%	98%

External: Exit 75, Enter 127

Net External Trips for Multi-Use Development				
	Land Use A	Land Use B	Land Use C	TOTAL
Enter	20	110	124	254
Exit	20	60	73	153
Total	40	170	197	407
Single-use Trip Gen Est.	50	175	202	427

INTERNAL CAPTURE **5%**

BACKGROUND PROJECTS



All: 49
Done: 5
Remain: 44

All: 49
Done: 38
Remain: 11

Elk Ridge
All: 119
Done: 41
Remain: 78

Thursday, Jan 15, 2015 01:41 PM

14 single family residential lots platted
1 lots built out
13 single family residential lots remain

Trip Generation

Table 1 - Trip Generation Rates for LUC # 210 – Single Family Residential Detached Housing

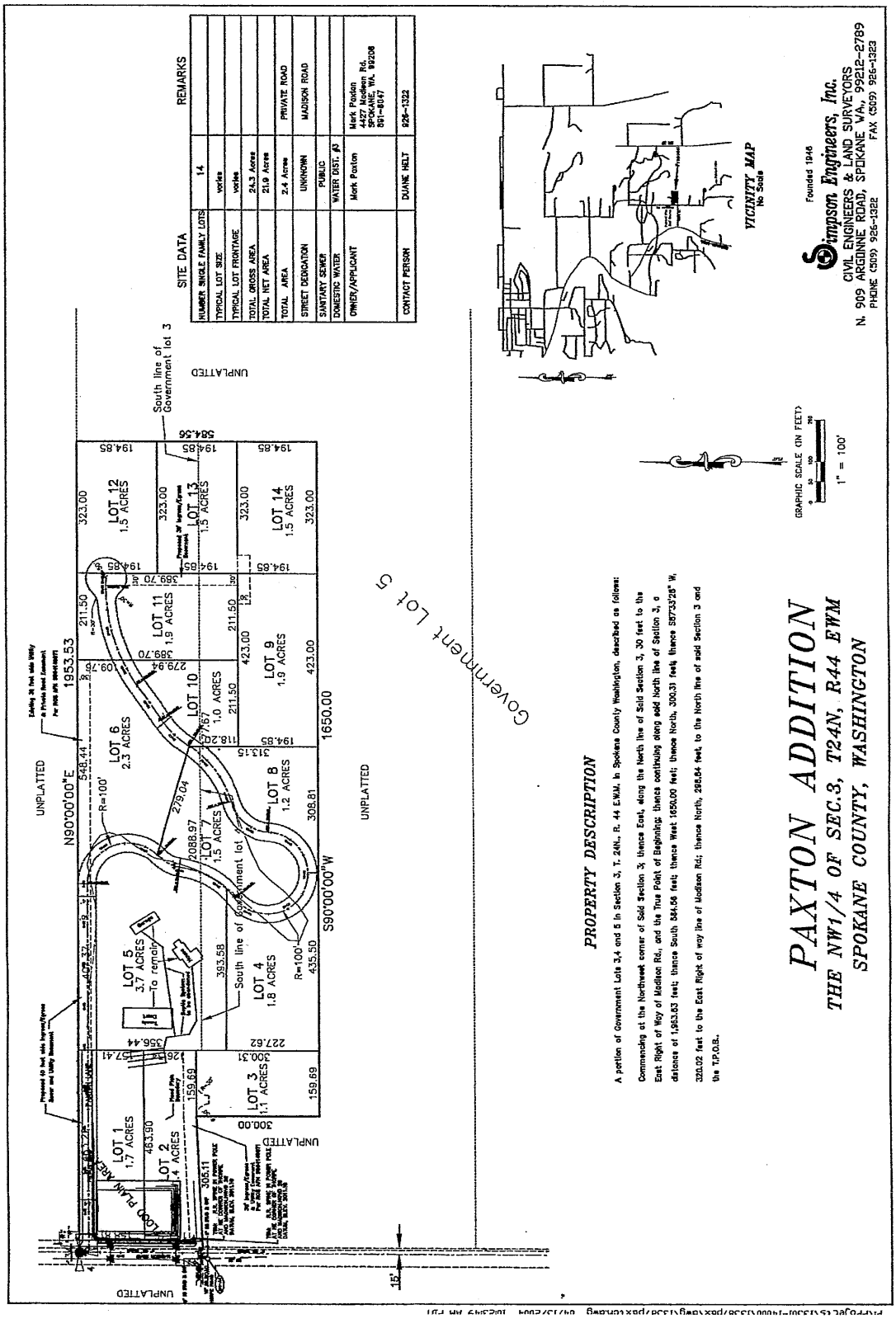
Dwelling Units	AM Peak Hour			PM Peak Hour		
	Vol. @ 0.76 trips per Unit	Directional Distribution		Vol. @ 1.01 trips per Unit	Directional Distribution	
		26% In	74% Out		65% In	35% Out
13	10	3	7	13	8	5

Average Daily Trip Ends (ADT)		
Units	Rate	ADT
13	11.66	152

Trip Distribution

60% north on Madison Road towards 32nd Avenue
- 34% east on 32nd Avenue
- 17% north on Pines Road
- 9% west on 32nd Avenue

40% west on Thorpe Road towards Dishman-Mica Road
- 36% north on Dishman-Mica Road
- 4% south on Dishman-Mica Road



N.T.S.

Site plan provided by Simpson Engineers

Sunburst Engineering

4310 S. Ball Dr. (509) 924-2155
Veradale, WA 99037 (509) 228-9440 (fax)

Paxton Addition

Trip Distribution Letter
Project Number 0407

Figure 2

Site Plan

The trip generation characteristics of the site are expected to be represented by the characteristics found in the Institute of Transportation Engineers Manual, *Trip Generation, 7th Edition* for Single-Family Detached Housing, Land Use Category 210. These characteristics are summarized on Table 1.

Table 1 - Trip Generation Characteristics for Paxton Addition

Dwelling Units	AM Peak Hour			PM Peak Hour		
	Vol @ 0.77 Trips per Unit	Directional Distribution		Vol @ 1.02 Trips per Unit	Directional Distribution	
		26% In	74% Out		64% In	36% Out
14	11	3	8	14	9	5

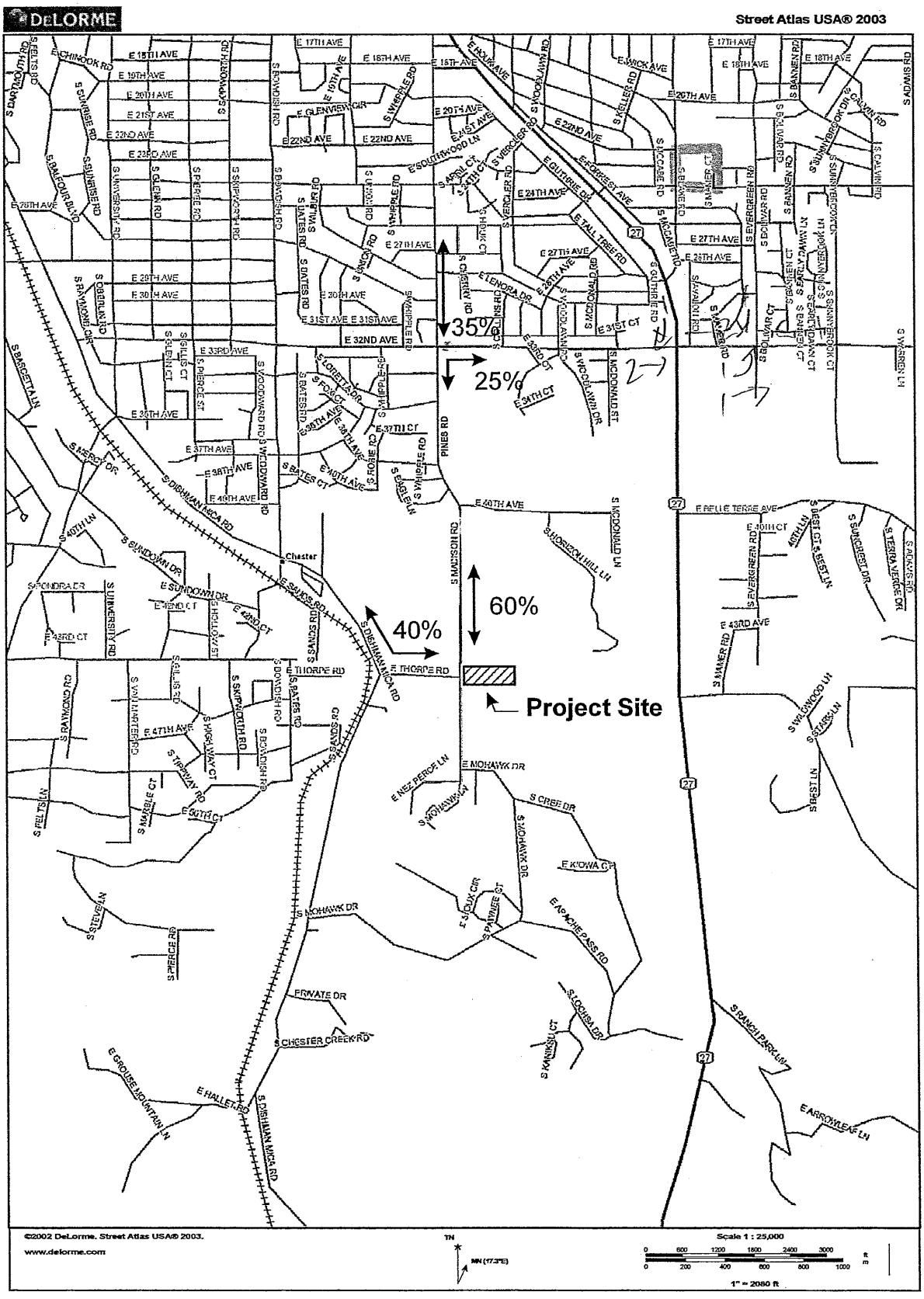
Average Daily Trip Ends (ADT)		
Unit	Rate	Total ADT
14	11.66	163

This site is served by one driveway to Madison Road. Nearly all destinations from the site will be north. However, with the proximity of Dishman-Mica Road, trips headed northwest will go to Dishman-Mica Road and then proceed northwest on that street. Trips destined to the north or northeast are expected to take Madison Road, and some will turn east on 32nd Avenue.

Overall distribution is expected to be 60% north on Madison Road, and 40% to Dishman-Mica. Of the northbound traffic on Madison, 25% will turn east on 32nd Avenue, while the remaining 35% will continue north on Pines Road. These percentages are percentages of the total. Figure 3, Trip Distribution, shows the anticipated distribution of traffic to/from this site.

Based upon this distribution, the site will add four vehicles to Dishman-Mica, and seven to Madison Road, three of which will use 32nd Avenue and four use Pines Road north of 32nd Avenue during the AM peak hour. During the PM peak hour, the site will add six vehicles to Dishman-Mica, five to 32nd Avenue and three to Pines Road north of 32nd Avenue although in the opposite direction.

The traffic from this project will have no identifiable impacts to the surrounding transportation system. The intersection of Pines Road / 32nd Avenue was recently signalized, is generally functioning at high levels of service and can easily accommodate additional traffic volume. The intersection of Thorpe Road / Dishman-



Sunburst Engineering

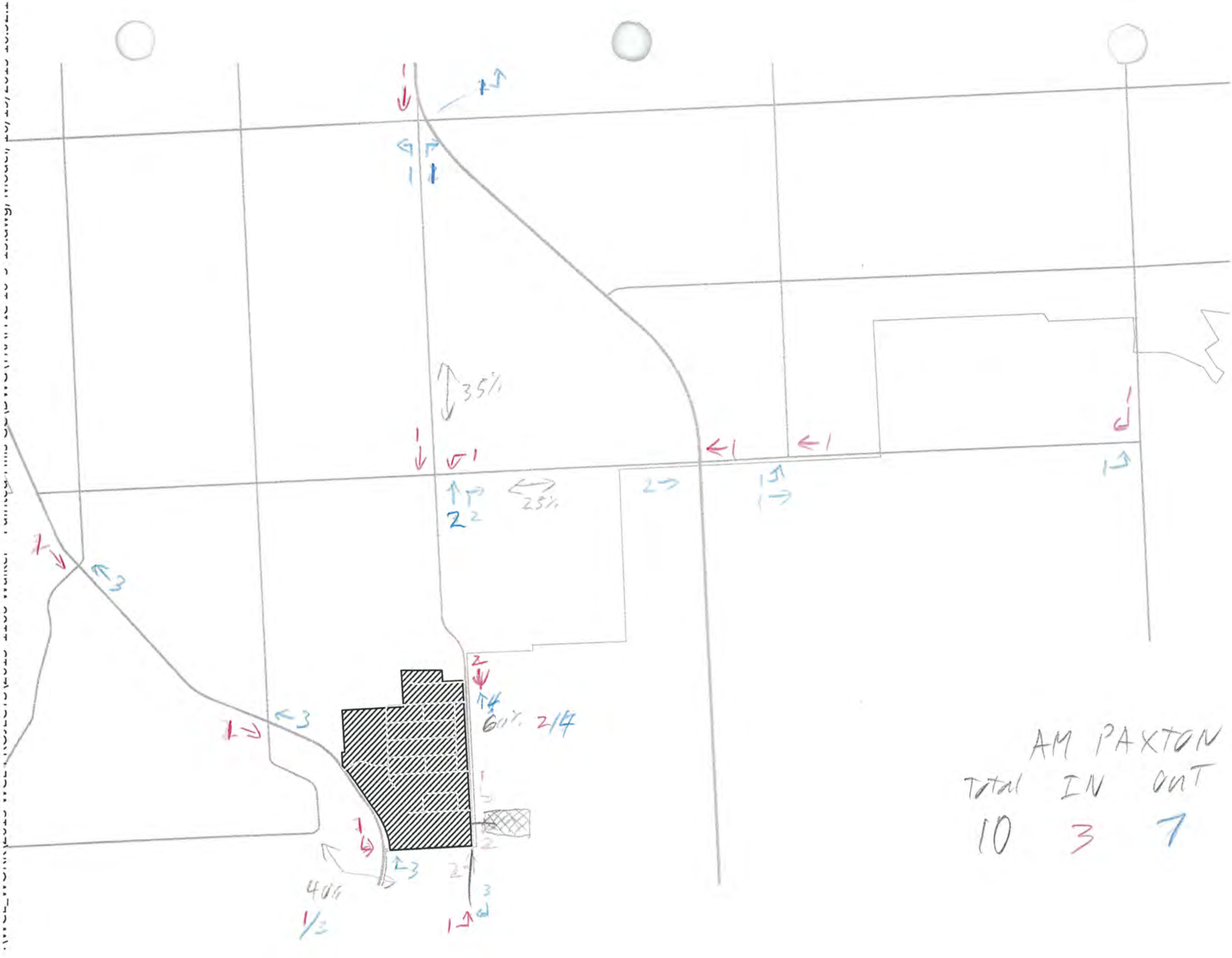
4310 S. Ball Dr. (509) 924-2155
Veradale, WA 99037 (509) 228-9440 (fax)

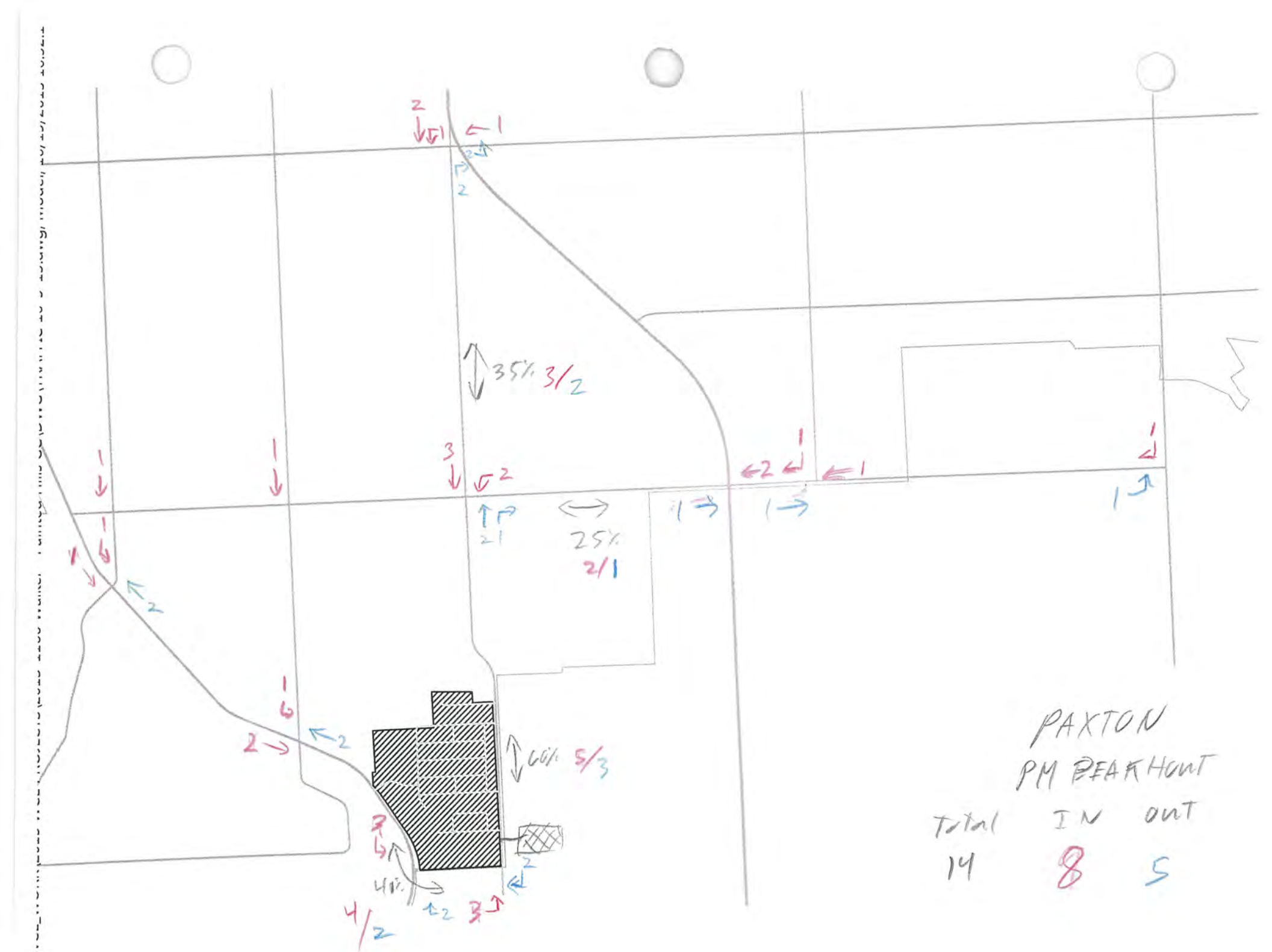
Paxton Addition

Trip Distribution Letter
Project Number 0407

Figure 3

Trip Distribution


AM PAXTON
Total IN OUT
10 3 7
35%
25%
60% 2/4
40%
1/3


35% 3/2
25% 2/1
60% 5/3
41%
4/2
PAXTON
PM PEAK HOUR
Total IN OUT
14 8 5

49 single family residential lots platted
_5 lots built out
44 single family residential lots remain

Trip Generation

Table 2 - Trip Generation Rates for LUC # 210 – Single Family Residential Detached Housing

Dwelling Units	AM Peak Hour			PM Peak Hour		
	Vol. @ 0.76 trips per Unit	Directional Distribution		Vol. @ 1.01 trips per Unit	Directional Distribution	
		26% In	74% Out		65% In	35% Out
44	33	9	24	44	29	15

Average Daily Trip Ends (ADT)		
Units	Rate	ADT
44	11.66	513

Trip Distribution

60% north on Madison Road towards 32nd Avenue
- 34% east on 32nd Avenue
- 17% north on Pines Road
- 9% west on 32nd Avenue

40% west on Thorpe Road towards Dishman-Mica Road
- 36% north on Dishman-Mica Road
- 4% south on Dishman-Mica Road

IV. Trip Generation

The trip generation characteristics of the site are expected to be represented by the characteristics found in the Institute of Transportation Engineers Manual, *Trip Generation, 7th Edition* for Single-Family Detached Housing, Land Use Category 210. Local data is available for average daily traffic from a report prepared by NuStats on behalf of SRTC, and for non-incorporated parts of Spokane County, the rate is 11.55 trips per household per day. The trip making characteristics for the site are summarized on Table 1.

Table 1 - Trip Generation Characteristics for The Creek at Chester

Units	AM Peak Hour			PM Peak Hour			ADT
	Vol @ 0.77 Trips per Unit	Directional Distribution		Vol @ 1.02 Trips per Unit	Directional Distribution		Vol @ 11.55 Trips per Unit
		26% In	74% Out		64% In	36% Out	
49	38	10	28	50	32	18	566

Based on the information on Table 1 the site will generate 38 new trips during the a.m. peak hour and 50 new trips in the p.m. peak hour. During an average day, the site will generate 566 trips.

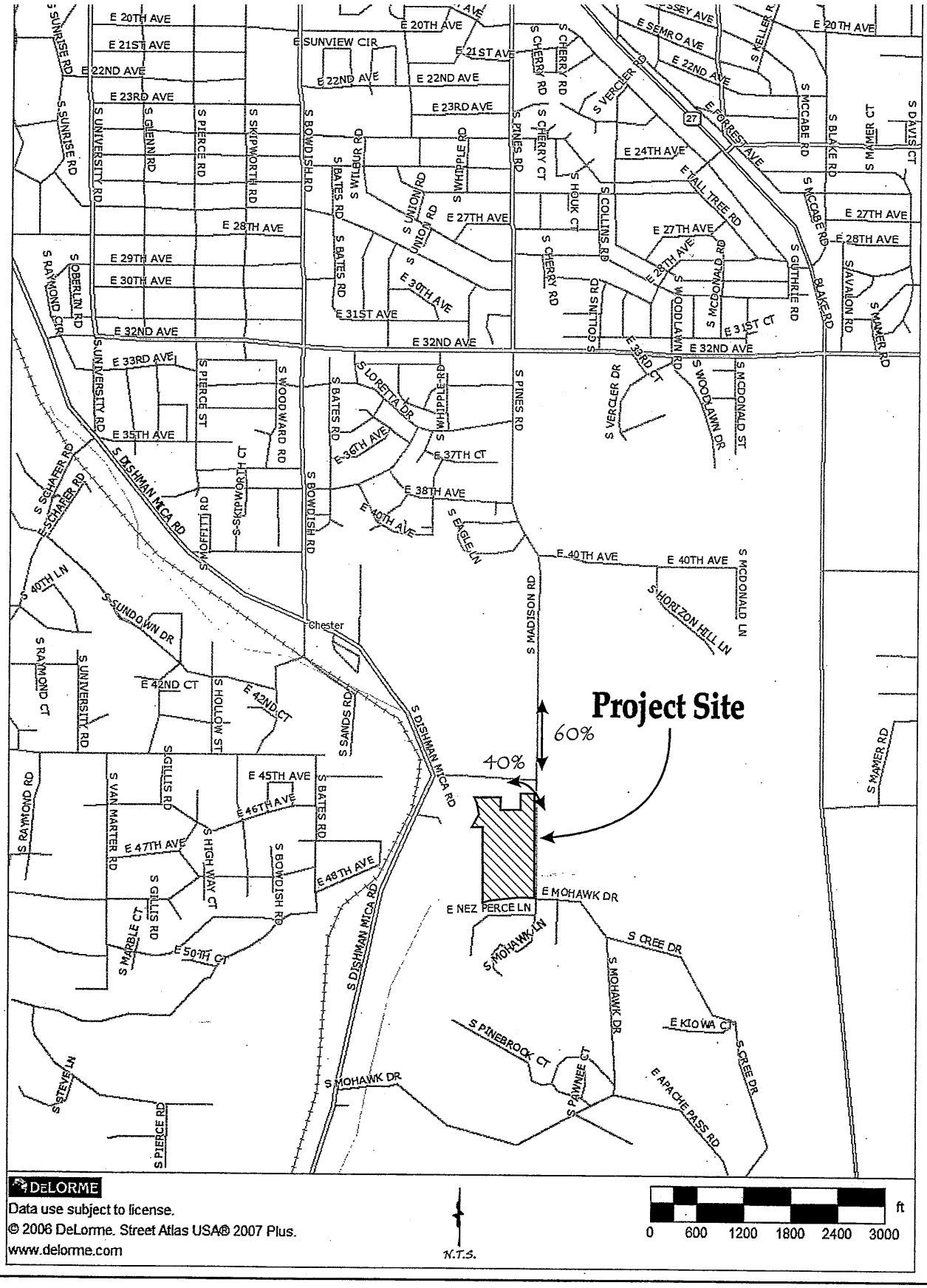
V. Trip Distribution

Overall distribution from the site is expected to be 40% west on Thorpe Road, and 60% north on Madison Road as shown on Figure 5, Trip Distribution. This is substantially different than the distribution contained in the trip distribution letter prepared for this project. However, the field counts at the Thorpe Road / Madison Road intersection indicate that this distribution is more reflective of residential distribution in the area. It is likely that more trips from the area have ends within the Valley and closer to the site than anticipated in the trip distribution letter. This discrepancy was brought to Spokane County and Spokane Valley personnel's attention as soon as it was discovered.

Note that all of the traffic generated by the project is assumed to use the Thorpe Road / Madison Road intersection. A small amount of traffic may go south from the site. However, this is expected to be a very small amount, and was therefore neglected, in part to ensure that the Thorpe Road / Madison Road intersection is functioning at acceptable levels of service. The traffic on Thorpe Road is expected to use Dishman-Mica Road to/from the north, with very limited traffic using Dishman-Mica Road to the south. The site generated traffic volumes are shown on the lower left corner of Figure 3 for the a.m. peak hour and Figure 4 for the p.m. peak hour.

VI. Level of Service Analysis

Intersection levels of service are expressed by using letter designations from A to F, whereby LOS A represents the best operating conditions and LOS F the worst (saturated flow or over-capacity) conditions. The levels are designed to determine how well an intersection is functioning with respect to variables such as traffic flow and delay.

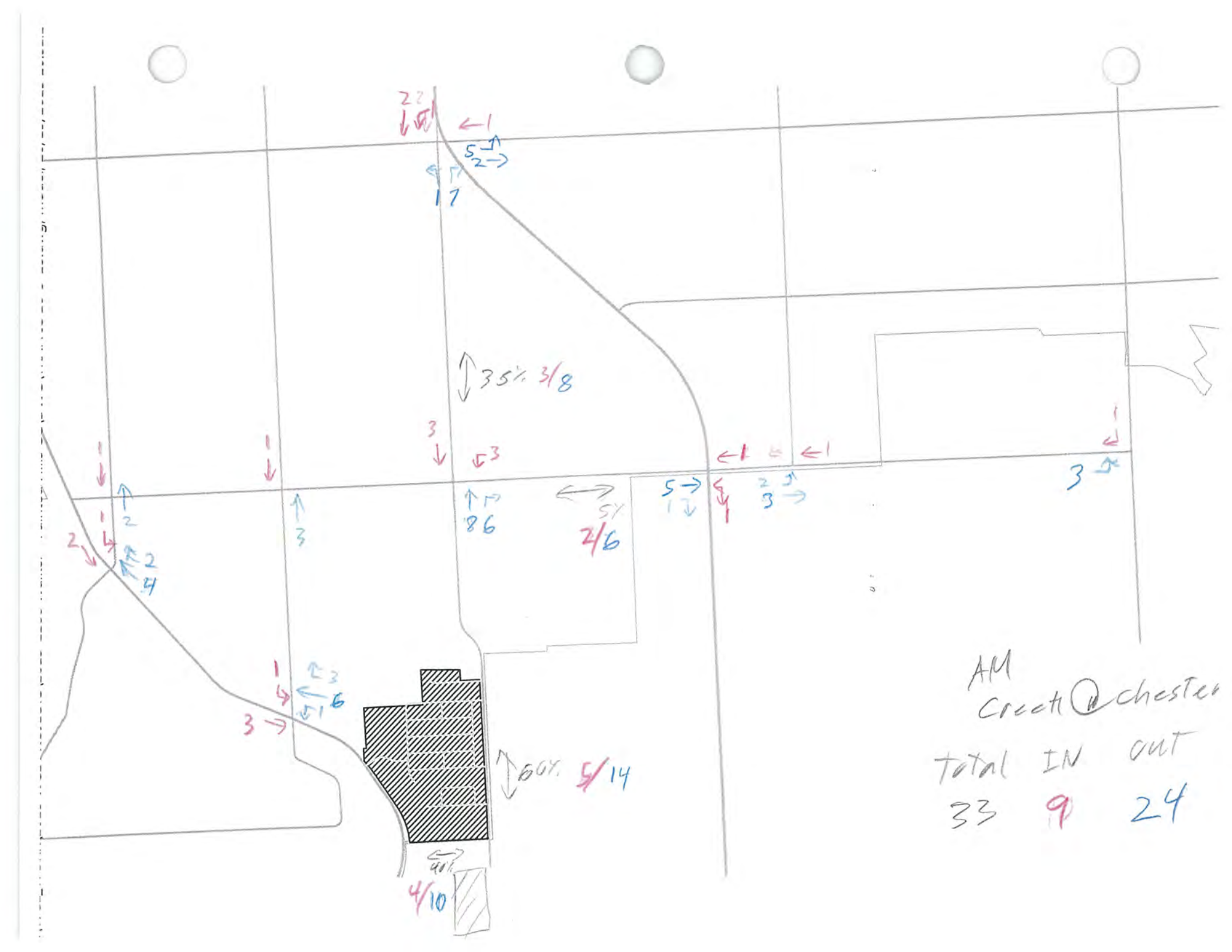


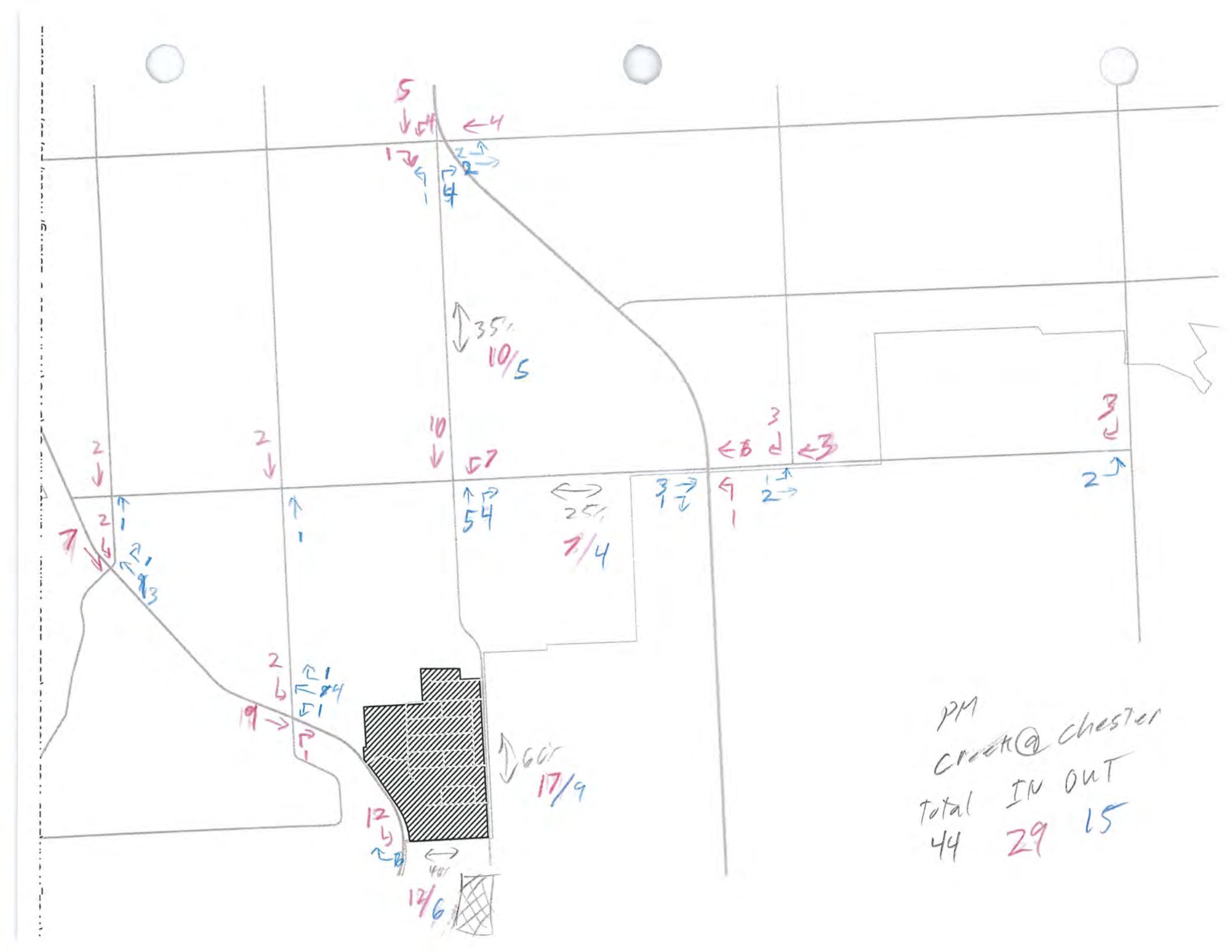
SUNBURST ENGINEERING
4310 S Ball Dr
Veradale, WA 99037
(509) 924-2155
(509) 228-9440 (Fax)
www.sunburstengr.com

The Creek at Chester

Threshold Traffic Study

Figure 5
Distribution Map


AM
Creek @ Chester
Total IN Out
33 9 24


35'
10/5
25'
7/4
60'
17/9
40'
12/6
PM
Creek @ Chester
Total IN OUT
44 29 15

132 single family residential lots platted
__0 lots built out
132 single family residential lots

Trip Generation

Table 4 - Trip Generation Rates for LUC # 220 – Apartments

Dwelling Units	AM Peak Hour			PM Peak Hour		
	Vol. per * equation	Directional Distribution		Vol. per ** equation	Directional Distribution	
		20% In	80% Out		65% In	35% Out
132	69	14	55	90	59	31

Average Daily Trip Ends (ADT)		
Units	Rate	ADT
132	6.65	878

*AM Vol. eqn: T=0.49(X)+3.73
**PM Vol. eqn: T=0.55(X)+17.65

Trip Distribution

15% west on 32nd Avenue towards Dishman-Mica Road
35% north on State Route 27
20% east on 32nd Avenue, then north on Sullivan Road
15% east on 32nd Avenue, then north on Evergreen Road
5% north on State Route 27, then west on 16th Avenue
5% south on State Route 27
5% internal

Project Impacts

This section documents the impacts which the proposed project would have on the transportation network in the surrounding vicinity. First, trips to be generated by the proposed project are estimated and assigned to the transportation network. With-project levels of service at identified study intersections are evaluated and compared to the baseline condition and local agency standards. Any potential traffic safety impacts and transit and non-motorized impacts are discussed.

Trip Generation

Weekday PM peak hour trip generation for the proposed project was calculated based on trip rates published in the Institute of Transportation Engineer's *Trip Generation Manual* (9th Edition, 2012). The trip generation rates are based on hundreds of studies for different land uses. For this study, the apartments land use (#220) was study with the regression equation used based on the size of the development and recommendations in the *Trip Generation Handbook* (ITE, 2nd Edition, 2004).

The resulting trip generation estimate for the proposed development during the average weekday PM peak hour is shown in Table 3. As shown, the proposed residential development is anticipated to generate 90 net new project trips (59 inbound trips and 31 outbound trips) during the weekday PM peak hour.

Table 3. Weekday PM Peak Hour Trip Generation Summary

			Net New Project Trips[2]		
Land Use	**Size**	**Rate[1]**	**In**	**Out**	**Total**
Apartments (LU 220)	132 DU	eqn	59	31	90

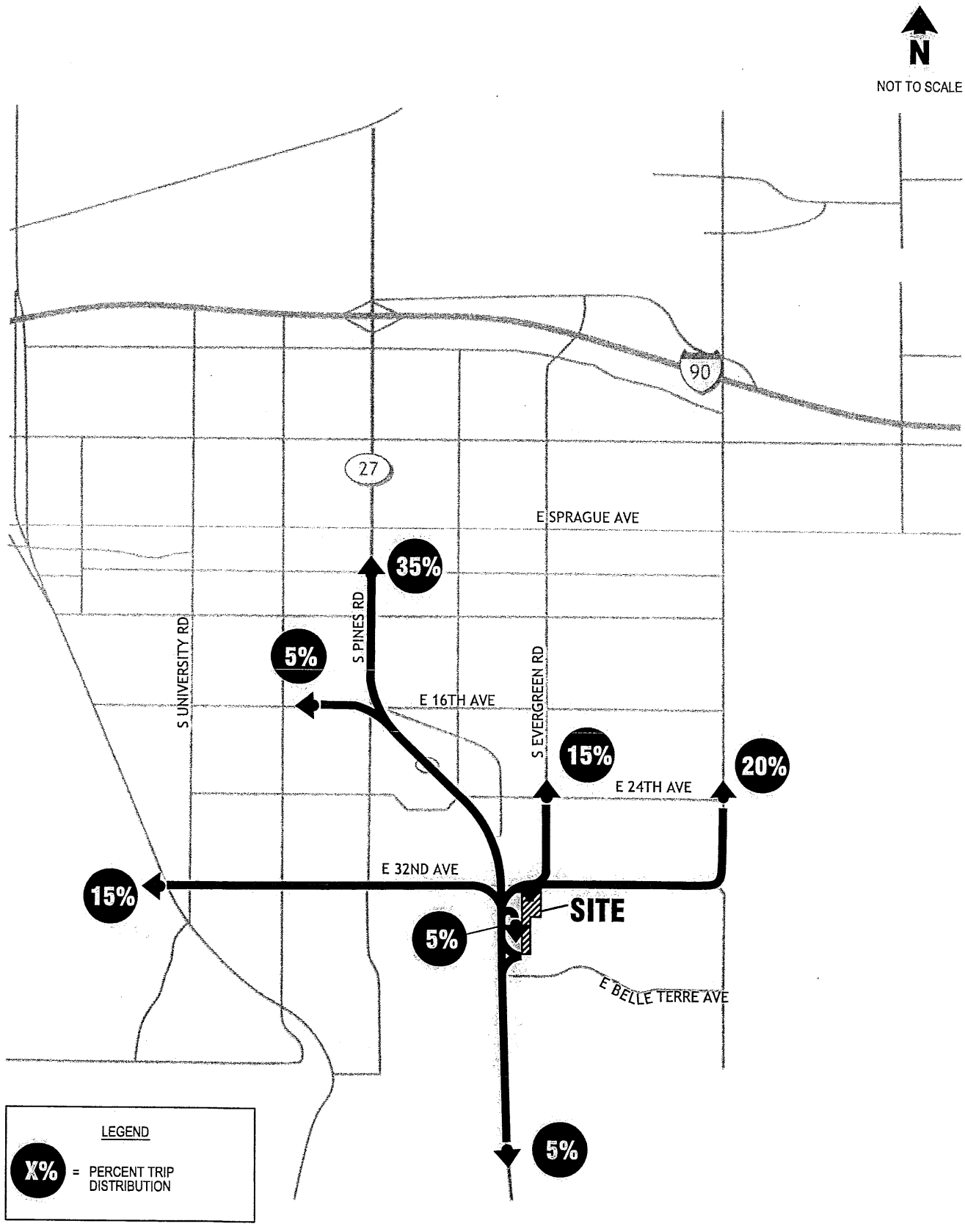
1. Rate derived from equation provided for LU 220 within the ITE *Trip Generation Manual*, 9th Edition.
2. In/out percentages based on ITE *Trip Generation Manual*, 9th Edition.

As shown in Table 3, the proposed residential development is anticipated to generate 90 vehicle trips during the weekday PM peak hour. Of these trips, it is estimated that 59 will be oriented towards the site while 31 leave the site during the weekday PM peak hour.

Trip Distribution and Assignment

The distribution of project traffic is based on a review of local travel patterns and coordination with Spokane Valley, Spokane County, and WSDOT staff. Based on the trip distribution patterns shown in Figure 5, weekday PM peak-hour project traffic was assigned to each of the study intersections as shown in Figure 6.

The project traffic volumes were added to the future baseline 2017 traffic volumes to form the basis of the with-project analysis. Figure 7 shows the weekday PM peak hour with-project traffic volumes. The future with-project traffic volumes and project share are summarized in Table 4.



Project Trip Distribution

Pine Valley Ranch Phase II

FIGURE **5**

transpoGROUP

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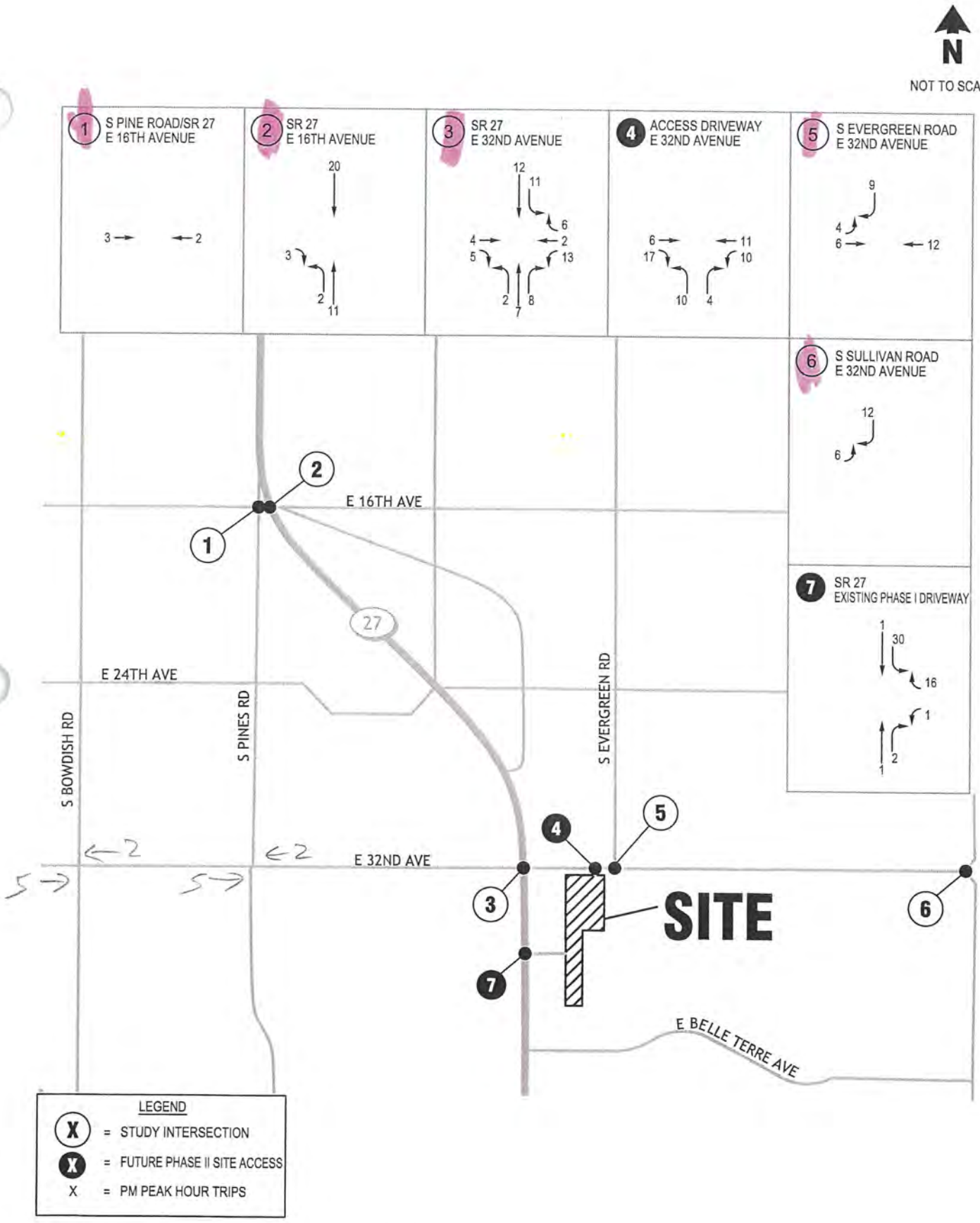


PM Peak Hour Project Trip Assignment

FIGURE 6

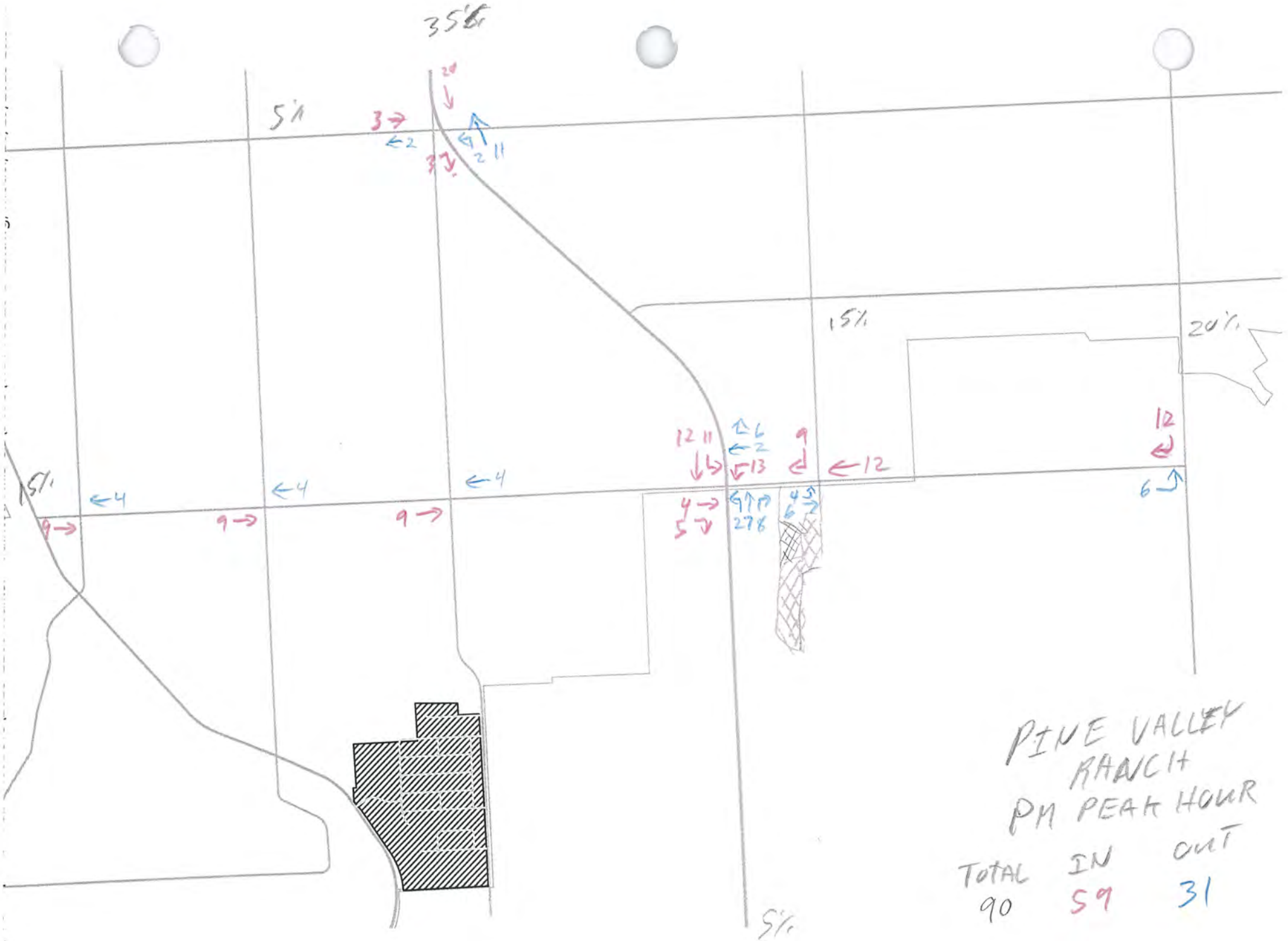
Pine Valley Ranch Phase II

\\srv-dfs-wa\MM_Projects\Projects\14\14069.00 - Pine Valley Ranch II\Graphics\14069_graphic01_20141031 <Figure 6> stephanies 11/12/14 12:24

transpogroup
WHAT TRANSPORTATION CAN BE

PINE VALLEY RANC
AM PEAK HOUR

Total	IN	OUT
69	14	55


5%
15%
20%
15%
5%
PINE VALLEY RANCH
PM PEAK HOUR
TOTAL 90
IN 59
OUT 31

Elk Ridge Heights

119 single family residential lots platted
41 lots built out
78 single family residential lots

Trip Generation

Table 3 - Trip Generation Rates for LUC # 210 – Single Family Residential Detached Housing

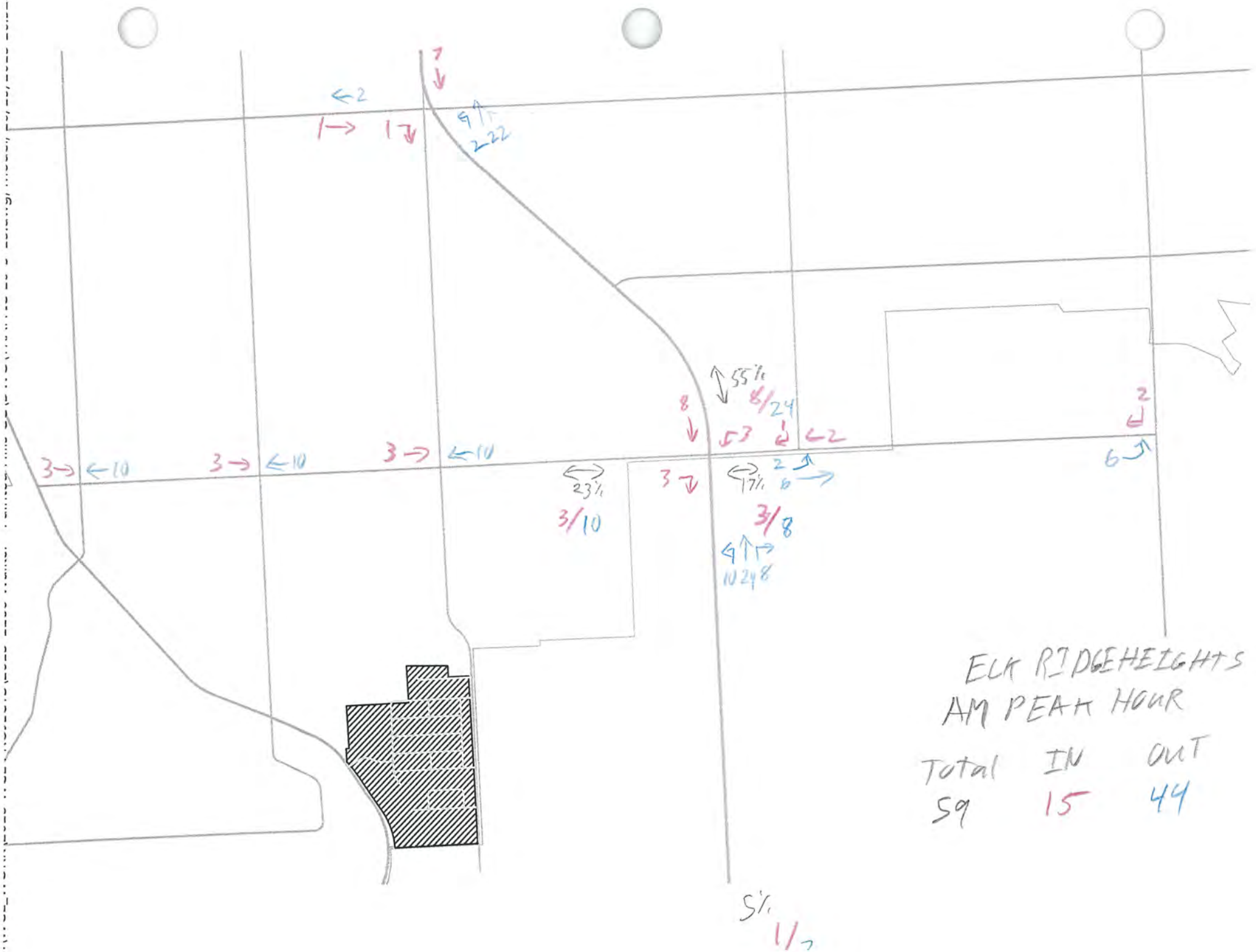
Dwelling Units	AM Peak Hour			PM Peak Hour		
	Vol. @ 0.76 trips per Unit	Directional Distribution		Vol. @ 1.01 trips per Unit	Directional Distribution	
		26% In	74% Out		65% In	35% Out
78	59	15	44	79	51	28

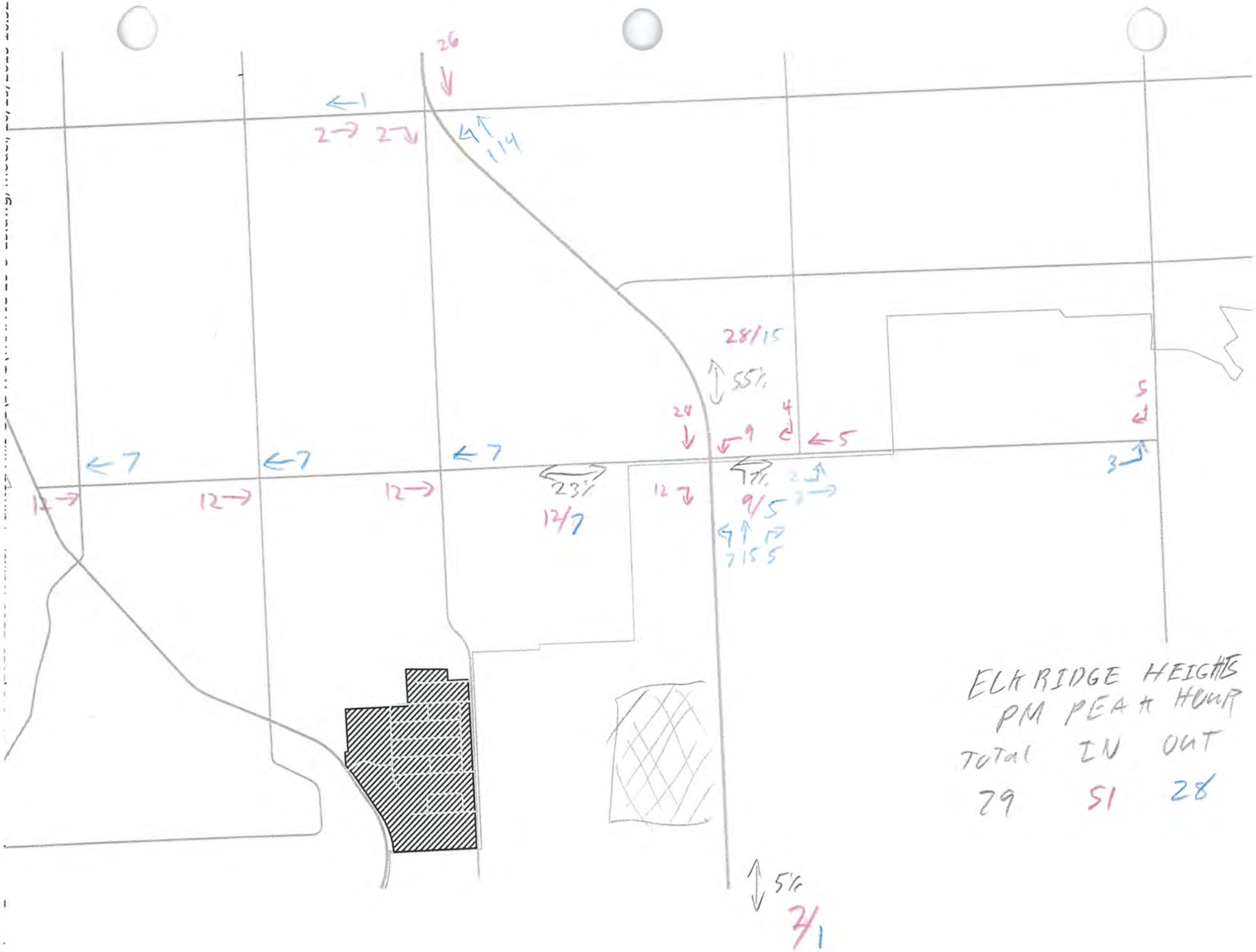
Average Daily Trip Ends (ADT)		
Units	Rate	ADT
78	11.66	909

Trip Distribution

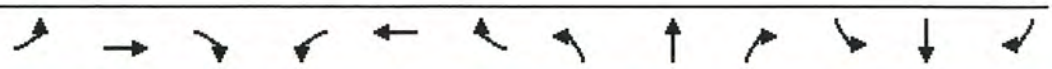
95% north on State Route 27 towards 32nd Avenue
- 55% north on State Route 27
- 23% west on 32nd Avenue
- 17% east on 32nd Avenue

5% south on State Route 27


ELK RIDGE HEIGHTS
AM PEAK HOUR
Total IN OUT
59 15 44


ELK RIDGE HEIGHTS
PM PEAK HOUR
TOTAL IN OUT
79 51 28

LEVEL OF SERVICE CALCULATIONS EXISTING CONDITIONS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	125	6	32	441	111	19	73	60	61	46	4
Future Volume (veh/h)	4	125	6	32	441	111	19	73	60	61	46	4
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1868	1900	1900	1883	1900	1900	1875	1900	1759	1832	1900
Adj Flow Rate, veh/h	4	136	7	35	479	121	21	79	65	66	50	4
Adj No. of Lanes	0	2	0	0	2	0	1	2	0	1	2	0
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, %	1	1	1	0	0	0	0	0	0	8	2	2
Cap, veh/h	108	1395	70	142	1129	276	38	305	227	89	618	49
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.02	0.16	0.16	0.05	0.19	0.19
Sat Flow, veh/h	19	3326	168	87	2691	658	1810	1940	1441	1675	3269	258
Grp Volume(v), veh/h	77	0	70	341	0	294	21	72	72	66	26	28
Grp Sat Flow(s),veh/h/ln	1843	0	1670	1839	0	1597	1810	1781	1601	1675	1741	1787
Q Serve(g_s), s	0.0	0.0	1.0	0.0	0.0	4.9	0.4	1.3	1.5	1.5	0.5	0.5
Cycle Q Clear(g_c), s	0.9	0.0	1.0	4.9	0.0	4.9	0.4	1.3	1.5	1.5	0.5	0.5
Prop In Lane	0.05		0.10	0.10		0.41	1.00		0.90	1.00		0.14
Lane Grp Cap(c), veh/h	873	0	701	876	0	670	38	280	252	89	329	338
V/C Ratio(X)	0.09	0.00	0.10	0.39	0.00	0.44	0.55	0.26	0.29	0.74	0.08	0.08
Avail Cap(c_a), veh/h	1528	0	1325	1546	0	1268	957	1413	1270	887	1381	1418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.6	0.0	6.6	7.8	0.0	7.8	18.3	14.0	14.1	17.6	12.6	12.6
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.6	0.0	1.0	16.8	1.0	1.3	16.0	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	0.5	0.0	0.5	2.6	0.0	2.3	0.4	0.7	0.8	1.1	0.2	0.3
LnGrp Delay(d),s/veh	6.7	0.0	6.8	8.4	0.0	8.8	35.1	15.0	15.4	33.7	12.8	12.8
LnGrp LOS	A		A	A		A	D	B	B	C	B	B
Approach Vol, veh/h		147			635			165			120	
Approach Delay, s/veh		6.8			8.6			17.7			24.3	
Approach LOS		A			A			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.9	4.8	12.2		20.9	6.0	10.9
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		30.0	20.0	30.0		30.0	20.0	30.0
Max Q Clear Time (g_c+I1), s		3.0	2.4	2.5		6.9	3.5	3.5
Green Ext Time (p_c), s		9.6	0.0	2.1		8.9	0.2	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	126	35	10	378	18	213	95	22	14	37	11
Future Volume (veh/h)	1	126	35	10	378	18	213	95	22	14	37	11
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1776	1900	1900	1859	1900	1900	1885	1900	1900	1810	1900
Adj Flow Rate, veh/h	1	138	38	11	415	20	234	104	24	15	41	12
Adj No. of Lanes	1	1	1	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	7	0	0	2	2	0	1	1	0	5	0
Cap, veh/h	5	448	407	21	901	43	325	312	72	28	84	75
Arrive On Green	0.00	0.25	0.25	0.01	0.26	0.26	0.18	0.21	0.21	0.02	0.05	0.05
Sat Flow, veh/h	1810	1776	1615	1810	3432	165	1810	1482	342	1810	1810	1615
Grp Volume(v), veh/h	1	138	38	11	213	222	234	0	128	15	41	12
Grp Sat Flow(s),veh/h/ln	1810	1776	1615	1810	1766	1830	1810	0	1824	1810	1810	1615
Q Serve(g_s), s	0.0	2.5	0.7	0.2	4.0	4.0	4.8	0.0	2.3	0.3	0.9	0.3
Cycle Q Clear(g_c), s	0.0	2.5	0.7	0.2	4.0	4.0	4.8	0.0	2.3	0.3	0.9	0.3
Prop In Lane	1.00		1.00	1.00		0.09	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	5	448	407	21	464	481	325	0	384	28	84	75
V/C Ratio(X)	0.22	0.31	0.09	0.53	0.46	0.46	0.72	0.00	0.33	0.54	0.49	0.16
Avail Cap(c_a), veh/h	1154	1133	1030	923	1127	1167	923	0	1303	923	1293	1154
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	11.9	11.2	19.3	12.1	12.1	15.2	0.0	13.1	19.2	18.2	17.9
Incr Delay (d2), s/veh	30.5	0.6	0.1	26.4	1.0	1.0	4.3	0.0	0.7	21.1	6.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.3	0.3	0.3	2.0	2.1	2.7	0.0	1.3	0.3	0.6	0.2
LnGrp Delay(d),s/veh	50.1	12.4	11.4	45.7	13.1	13.1	19.4	0.0	13.8	40.3	24.3	19.3
LnGrp LOS	D	B	B	D	B	B	B		B	D	C	B
Approach Vol, veh/h		177			446			362			68	
Approach Delay, s/veh		12.4			13.9			17.4			26.9	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.5	15.9	11.0	7.8	4.0	16.3	4.6	14.3
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	20.0	25.0	20.0	28.0	25.0	25.0	20.0	28.0
Max Q Clear Time (g_c+I1), s	2.2	4.5	6.8	2.9	2.0	6.0	2.3	4.3
Green Ext Time (p_c), s	0.0	4.4	0.9	1.3	0.0	4.3	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	412	34	23	253	8	52	44	28	73	109	92
Future Volume (veh/h)	51	412	34	23	253	8	52	44	28	73	109	92
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1849	1900	1900	1822	1900	1900	1856	1900	1900	1886	1900
Adj Flow Rate, veh/h	58	468	39	26	288	9	59	50	32	83	124	105
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	3	3	0	4	4	2	2	2	1	1	1
Cap, veh/h	494	659	55	336	659	21	255	202	101	190	216	155
Arrive On Green	0.03	0.39	0.39	0.02	0.38	0.38	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1774	1684	140	1810	1758	55	509	728	363	319	778	557
Grp Volume(v), veh/h	58	0	507	26	0	297	141	0	0	312	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1824	1810	0	1812	1600	0	0	1654	0	0
Q Serve(g_s), s	0.9	0.0	10.5	0.4	0.0	5.5	0.0	0.0	0.0	4.2	0.0	0.0
Cycle Q Clear(g_c), s	0.9	0.0	10.5	0.4	0.0	5.5	2.8	0.0	0.0	7.4	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.03	0.42		0.23	0.27		0.34
Lane Grp Cap(c), veh/h	494	0	713	336	0	680	559	0	0	561	0	0
V/C Ratio(X)	0.12	0.00	0.71	0.08	0.00	0.44	0.25	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	1165	0	977	1050	0	970	926	0	0	976	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.4	0.0	11.5	9.5	0.0	10.5	12.7	0.0	0.0	14.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	2.0	0.1	0.0	0.6	0.3	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	5.6	0.2	0.0	2.8	1.4	0.0	0.0	3.6	0.0	0.0
LnGrp Delay(d),s/veh	8.5	0.0	13.5	9.6	0.0	11.1	13.0	0.0	0.0	15.5	0.0	0.0
LnGrp LOS	A		B	A		B	B			B		
Approach Vol, veh/h		565			323			141			312	
Approach Delay, s/veh		13.0			11.0			13.0			15.5	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.8	22.5		17.5	5.5	21.8		17.5
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	18.5	24.0		24.0	18.5	24.0		24.0
Max Q Clear Time (g_c+I1), s	2.4	12.5		9.4	2.9	7.5		4.8
Green Ext Time (p_c), s	0.0	5.0		3.4	0.1	6.3		3.8

Intersection Summary	
HCM 2010 Ctrl Delay	13.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	113	31	9	269	20	112	143	16	21	59	7
Future Volume (veh/h)	6	113	31	9	269	20	112	143	16	21	59	7
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1859	1900	1900	1882	1900	1900	1883	1900	1900	1900	1900
Adj Flow Rate, veh/h	7	128	35	10	306	23	127	162	18	24	67	8
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	2	2	0	1	1	1	1	1	0	0	0
Cap, veh/h	14	426	116	19	529	40	295	264	26	197	416	431
Arrive On Green	0.01	0.30	0.30	0.01	0.31	0.31	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1810	1406	385	1810	1730	130	554	989	96	247	1558	1615
Grp Volume(v), veh/h	7	0	163	10	0	329	307	0	0	91	0	8
Grp Sat Flow(s),veh/h/ln	1810	0	1791	1810	0	1860	1638	0	0	1804	0	1615
Q Serve(g_s), s	0.1	0.0	2.4	0.2	0.0	5.2	4.2	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.1	0.0	2.4	0.2	0.0	5.2	5.7	0.0	0.0	1.3	0.0	0.1
Prop In Lane	1.00		0.21	1.00		0.07	0.41		0.06	0.26		1.00
Lane Grp Cap(c), veh/h	14	0	542	19	0	569	585	0	0	614	0	431
V/C Ratio(X)	0.51	0.00	0.30	0.52	0.00	0.58	0.52	0.00	0.00	0.15	0.00	0.02
Avail Cap(c_a), veh/h	785	0	1295	1309	0	1291	897	0	0	938	0	747
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.1	0.0	9.2	17.0	0.0	10.1	11.3	0.0	0.0	9.8	0.0	9.3
Incr Delay (d2), s/veh	36.9	0.0	0.4	27.9	0.0	1.3	1.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.2	0.2	0.0	2.8	2.7	0.0	0.0	0.7	0.0	0.1
LnGrp Delay(d),s/veh	54.0	0.0	9.7	44.9	0.0	11.4	12.3	0.0	0.0	9.9	0.0	9.4
LnGrp LOS	D		A	D		B	B			A		A
Approach Vol, veh/h		170			339			307			99	
Approach Delay, s/veh		11.5			12.4			12.3			9.9	
Approach LOS		B			B			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.4	16.0		14.2	4.3	16.1		14.2
Change Period (Y+Rc), s	4.0	5.5		5.0	4.0	5.5		5.0
Max Green Setting (Gmax), s	25.0	25.0		16.0	15.0	24.0		16.0
Max Q Clear Time (g_c+I1), s	2.2	4.4		3.3	2.1	7.2		7.7
Green Ext Time (p_c), s	0.0	3.7		2.7	0.0	3.4		2.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	73	218	12	34	111
Future Vol, veh/h	6	73	218	12	34	111
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	79	79	79	79	79	79
Heavy Vehicles, %	0	0	3	0	3	5
Mvmt Flow	8	92	276	15	43	141

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	511	284	0	0	291	0
Stage 1	284	-	-	-	-	-
Stage 2	227	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.227	-
Pot Cap-1 Maneuver	526	760	-	-	1265	-
Stage 1	769	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	507	760	-	-	1265	-
Mov Cap-2 Maneuver	507	-	-	-	-	-
Stage 1	769	-	-	-	-	-
Stage 2	785	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	732	1265	-
HCM Lane V/C Ratio	-	-	0.137	0.034	-
HCM Control Delay (s)	-	-	10.7	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	223	41	47	191	0	24	0	198	0	134	31
Future Vol, veh/h	0	223	41	47	191	0	24	0	198	0	134	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	4	0	0	5	0	0	0	2	2	6	0
Mvmt Flow	0	253	47	53	217	0	27	0	225	0	152	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	300	0	0	695	601	277	713	624	217
Stage 1	-	-	-	-	-	-	277	277	-	324	324	-
Stage 2	-	-	-	-	-	-	418	324	-	389	300	-
Critical Hdwy	-	-	-	4.1	-	-	7.1	6.5	6.22	7.12	6.56	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.56	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.318	3.518	4.054	3.3
Pot Cap-1 Maneuver	0	-	-	1273	-	0	359	417	762	347	397	828
Stage 1	0	-	-	-	-	0	734	685	-	688	643	-
Stage 2	0	-	-	-	-	0	616	653	-	635	658	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1273	-	-	228	397	762	236	378	828
Mov Cap-2 Maneuver	-	-	-	-	-	-	228	397	-	236	378	-
Stage 1	-	-	-	-	-	-	734	685	-	688	613	-
Stage 2	-	-	-	-	-	-	422	622	-	448	658	-

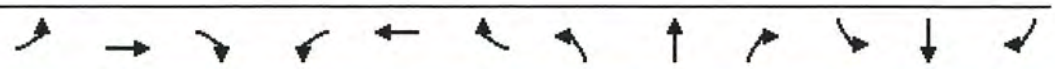
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	15.1	20.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	608	-	-	1273	-	421
HCM Lane V/C Ratio	0.415	-	-	0.042	-	0.445
HCM Control Delay (s)	15.1	-	-	8	0	20.2
HCM Lane LOS	C	-	-	A	A	C
HCM 95th %tile Q(veh)	2	-	-	0.1	-	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	206	22	5	188	68	49	401	18	39	99	1
Future Volume (veh/h)	193	206	22	5	188	68	49	401	18	39	99	1
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1864	1900	1900	1882	1900	1900	1828	1900
Adj Flow Rate, veh/h	227	242	26	6	221	0	58	472	21	46	116	1
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	1	1	0	2	2	0	0	1	1	0	4	4
Cap, veh/h	277	296	497	8	290	259	88	674	30	77	660	6
Arrive On Green	0.31	0.31	0.31	0.16	0.16	0.00	0.05	0.19	0.19	0.04	0.19	0.19
Sat Flow, veh/h	889	948	1592	49	1812	1615	1810	3488	155	1810	3528	30
Grp Volume(v), veh/h	469	0	26	227	0	0	58	242	251	46	57	60
Grp Sat Flow(s),veh/h/ln	1837	0	1592	1861	0	1615	1810	1788	1855	1810	1736	1822
Q Serve(g_s), s	16.2	0.0	0.8	8.0	0.0	0.0	2.2	8.6	8.7	1.7	1.9	1.9
Cycle Q Clear(g_c), s	16.2	0.0	0.8	8.0	0.0	0.0	2.2	8.6	8.7	1.7	1.9	1.9
Prop In Lane	0.48		1.00	0.03		1.00	1.00		0.08	1.00		0.02
Lane Grp Cap(c), veh/h	573	0	497	298	0	259	88	346	359	77	325	341
V/C Ratio(X)	0.82	0.00	0.05	0.76	0.00	0.00	0.66	0.70	0.70	0.60	0.18	0.18
Avail Cap(c_a), veh/h	1339	0	1161	814	0	707	792	782	811	792	760	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	0.0	16.5	27.5	0.0	0.0	32.0	25.8	25.8	32.2	23.4	23.4
Incr Delay (d2), s/veh	2.9	0.0	0.0	4.0	0.0	0.0	8.0	1.9	1.9	7.2	0.1	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	8.7	0.0	0.3	4.4	0.0	0.0	1.3	4.4	4.6	1.0	0.9	1.0
LnGrp Delay(d),s/veh	24.7	0.0	16.5	31.5	0.0	0.0	40.1	27.7	27.7	39.5	23.5	23.5
LnGrp LOS	C		B	C			D	C	C	D	C	C
Approach Vol, veh/h		495			227			551			163	
Approach Delay, s/veh		24.3			31.5			29.0			28.0	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.3	17.8		16.0	7.9	18.3		26.4
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	4.2	3.9		10.0	3.7	10.7		18.2
Green Ext Time (p_c), s	0.1	2.7		1.1	0.1	2.6		3.2

Intersection Summary	
HCM 2010 Ctrl Delay	27.7
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	344	3	38	390	53	43	50	99	181	33	31
Future Volume (veh/h)	15	344	3	38	390	53	43	50	99	181	33	31
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	0.99		0.99	0.91		0.97	0.98		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1838	1900	1900	1863	1900	1863	1900	1900
Adj Flow Rate, veh/h	18	414	4	46	470	64	52	60	119	218	40	37
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	0	3	3	3	3	3	0	0	0	2	0	0
Cap, veh/h	353	886	9	439	789	107	336	88	174	364	220	204
Arrive On Green	0.01	0.49	0.49	0.02	0.50	0.50	0.03	0.16	0.16	0.12	0.25	0.25
Sat Flow, veh/h	1810	1824	18	1757	1583	216	1810	545	1082	1774	880	814
Grp Volume(v), veh/h	18	0	418	46	0	534	52	0	179	218	0	77
Grp Sat Flow(s),veh/h/ln	1810	0	1841	1757	0	1798	1810	0	1627	1774	0	1693
Q Serve(g_s), s	0.5	0.0	14.0	1.2	0.0	19.6	2.2	0.0	9.6	9.0	0.0	3.3
Cycle Q Clear(g_c), s	0.5	0.0	14.0	1.2	0.0	19.6	2.2	0.0	9.6	9.0	0.0	3.3
Prop In Lane	1.00		0.01	1.00		0.12	1.00		0.66	1.00		0.48
Lane Grp Cap(c), veh/h	353	0	895	439	0	897	336	0	261	364	0	424
V/C Ratio(X)	0.05	0.00	0.47	0.10	0.00	0.60	0.15	0.00	0.69	0.60	0.00	0.18
Avail Cap(c_a), veh/h	722	0	895	965	0	897	665	0	562	624	0	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.7	0.0	15.8	12.5	0.0	16.6	30.9	0.0	36.7	26.3	0.0	27.3
Incr Delay (d2), s/veh	0.1	0.0	1.8	0.1	0.0	2.9	0.2	0.0	6.6	1.6	0.0	0.4
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	0.2	0.0	7.5	0.6	0.0	10.4	1.1	0.0	4.8	4.6	0.0	1.6
LnGrp Delay(d),s/veh	13.7	0.0	17.6	12.6	0.0	19.5	31.1	0.0	43.3	27.9	0.0	27.7
LnGrp LOS	B		B	B		B	C		D	C		C
Approach Vol, veh/h		436			580			231			295	
Approach Delay, s/veh		17.4			18.9			40.6			27.9	
Approach LOS		B			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	51.2	16.0	19.9	6.8	50.0	7.7	28.2
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	20.0	30.0	25.0	32.0	30.0	45.0	20.0	25.0
Max Q Clear Time (g_c+I1), s	2.5	21.6	11.0	11.6	3.2	16.0	4.2	5.3
Green Ext Time (p_c), s	0.0	5.5	0.5	2.6	0.1	13.0	0.1	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	23.5
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	75	0	10	0	0	0	49	61	0	0	24	51
Future Vol, veh/h	75	0	10	0	0	0	49	61	0	0	24	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	4	0	0	0	0	0	2	0	0	0	0	0
Mvmt Flow	91	0	12	0	0	0	60	74	0	0	29	62

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	254	254	60	260	285	74	91	0	0	74	0	0
Stage 1	60	60	-	194	194	-	-	-	-	-	-	-
Stage 2	194	194	-	66	91	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4	3.3	3.5	4	3.3	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	695	653	1011	697	628	993	1504	-	-	1538	-	-
Stage 1	946	849	-	812	744	-	-	-	-	-	-	-
Stage 2	803	744	-	950	823	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	673	626	1011	667	602	993	1504	-	-	1538	-	-
Mov Cap-2 Maneuver	673	626	-	667	602	-	-	-	-	-	-	-
Stage 1	906	849	-	778	713	-	-	-	-	-	-	-
Stage 2	769	713	-	939	823	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	0	3.3	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1504	-	-	701	-	1538	-	-
HCM Lane V/C Ratio	0.04	-	-	0.148	-	-	-	-
HCM Control Delay (s)	7.5	0	-	11	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	-	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	221	55	59	191	66	114	258	126	22	78	72
Future Volume (veh/h)	125	221	55	59	191	66	114	258	126	22	78	72
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1838	1900	1810	1849	1900	1845	1856	1900	1900	1793	1900
Adj Flow Rate, veh/h	134	238	59	63	205	71	123	277	135	24	84	77
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	3	3	5	3	3	3	3	3	0	5	5
Cap, veh/h	179	809	197	102	326	113	164	487	231	52	256	212
Arrive On Green	0.10	0.29	0.29	0.06	0.25	0.25	0.09	0.21	0.21	0.03	0.14	0.14
Sat Flow, veh/h	1774	2787	677	1723	1314	455	1757	2323	1102	1810	1771	1467
Grp Volume(v), veh/h	134	147	150	63	0	276	123	208	204	24	80	81
Grp Sat Flow(s),veh/h/ln	1774	1746	1718	1723	0	1769	1757	1764	1662	1810	1704	1534
Q Serve(g_s), s	3.6	3.2	3.3	1.7	0.0	6.7	3.3	5.1	5.3	0.6	2.1	2.3
Cycle Q Clear(g_c), s	3.6	3.2	3.3	1.7	0.0	6.7	3.3	5.1	5.3	0.6	2.1	2.3
Prop In Lane	1.00		0.39	1.00		0.26	1.00		0.66	1.00		0.96
Lane Grp Cap(c), veh/h	179	507	499	102	0	439	164	370	348	52	246	222
V/C Ratio(X)	0.75	0.29	0.30	0.62	0.00	0.63	0.75	0.56	0.58	0.47	0.33	0.36
Avail Cap(c_a), veh/h	915	1441	1418	889	0	1460	1087	1455	1372	1120	1406	1266
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	13.3	13.4	22.3	0.0	16.2	21.4	17.2	17.3	23.2	18.6	18.7
Incr Delay (d2), s/veh	6.1	0.3	0.3	6.0	0.0	1.5	6.7	1.0	1.2	6.4	0.7	0.9
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	2.1	1.6	1.6	1.0	0.0	3.5	1.9	2.6	2.5	0.4	1.0	1.0
LnGrp Delay(d),s/veh	27.3	13.6	13.7	28.3	0.0	17.7	28.1	18.2	18.4	29.6	19.3	19.6
LnGrp LOS	C	B	B	C		B	C	B	B	C	B	B
Approach Vol, veh/h		431			339			535			185	
Approach Delay, s/veh		17.9			19.7			20.5			20.7	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	15.7	7.4	18.6	10.0	12.5	9.4	16.5
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	40.0	30.0	40.0	25.0	40.0
Max Q Clear Time (g_c+I1), s	2.6	7.3	3.7	5.3	5.3	4.3	5.6	8.7
Green Ext Time (p_c), s	0.0	2.7	0.1	3.6	0.3	2.7	0.3	3.6

Intersection Summary	
HCM 2010 Ctrl Delay	19.6
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	192	185	2	0	192	21	0	0	0	5	0	98
Future Vol, veh/h	192	185	2	0	192	21	0	0	0	5	0	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	-	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	0	5	0	0	0	0	0	0	4
Mvmt Flow	213	206	2	0	213	23	0	0	0	6	0	109

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	237	0	0	208	0	0	912	870	207	858	859	225
Stage 1	-	-	-	-	-	-	633	633	-	225	225	-
Stage 2	-	-	-	-	-	-	279	237	-	633	634	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.336
Pot Cap-1 Maneuver	1330	-	-	1375	-	-	257	292	839	279	296	809
Stage 1	-	-	-	-	-	-	471	476	-	782	721	-
Stage 2	-	-	-	-	-	-	732	713	-	471	476	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1330	-	-	1375	-	-	195	245	839	245	249	809
Mov Cap-2 Maneuver	-	-	-	-	-	-	195	245	-	245	249	-
Stage 1	-	-	-	-	-	-	396	400	-	657	721	-
Stage 2	-	-	-	-	-	-	633	713	-	396	400	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.2	0	0	10.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1330	-	-	1375	-	-	245	809
HCM Lane V/C Ratio	-	0.16	-	-	-	-	-	0.023	0.135
HCM Control Delay (s)	0	8.2	-	-	0	-	-	20	10.1
HCM Lane LOS	A	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	-	0.6	-	-	0	-	-	0.1	0.5

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	181	9	14	74	22	142
Future Vol, veh/h	181	9	14	74	22	142
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	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	0	0	0	0	8
Mvmt Flow	229	11	18	94	28	180

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	157	28	28	0	-	0
Stage 1	28	-	-	-	-	-
Stage 2	129	-	-	-	-	-
Critical Hdwy	6.42	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	834	1053	1599	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	824	1053	1599	-	-	-
Mov Cap-2 Maneuver	824	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	886	-	-	-	-	-

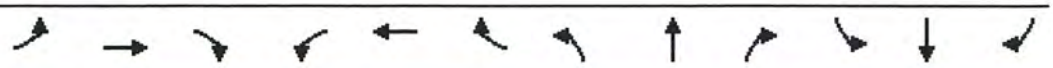
Approach	EB	NB	SB
HCM Control Delay, s	11.1	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1599	-	833	-	-
HCM Lane V/C Ratio	0.011	-	0.289	-	-
HCM Control Delay (s)	7.3	0	11.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.2	-	-

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	428	337	21	100	107	119
v/c Ratio	0.39	0.38	0.07	0.13	0.29	0.08
Control Delay	14.6	13.8	23.1	12.4	21.5	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.6	13.8	23.1	12.4	21.5	10.3
Queue Length 50th (ft)	45	32	5	6	24	7
Queue Length 95th (ft)	105	81	27	26	81	34
Internal Link Dist (ft)	112	93		1057		1152
Turn Bay Length (ft)			94		102	
Base Capacity (vph)	2304	1839	848	2281	832	2445
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.18	0.02	0.04	0.13	0.05

Intersection Summary

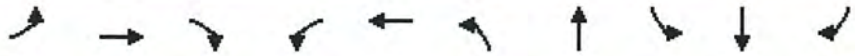
Description: Changed from City controller phase to E-W NEMA Phase to get 2010 HCM Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	371	16	72	176	59	19	54	37	97	104	5
Future Volume (veh/h)	2	371	16	72	176	59	19	54	37	97	104	5
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1877	1900	1900	1889	1900	1900	1878	1900	1863	1900	1900
Adj Flow Rate, veh/h	2	408	18	79	193	65	21	59	41	107	114	5
Adj No. of Lanes	0	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	0	0	0	0	2	2	2	0	0
Cap, veh/h	102	1308	57	327	708	243	38	308	196	144	731	32
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.02	0.15	0.15	0.08	0.21	0.21
Sat Flow, veh/h	3	3405	149	473	1844	632	1810	2095	1329	1774	3524	154
Grp Volume(v), veh/h	225	0	203	172	0	165	21	49	51	107	58	61
Grp Sat Flow(s),veh/h/ln	1875	0	1682	1342	0	1607	1810	1784	1640	1774	1805	1873
Q Serve(g_s), s	0.0	0.0	3.1	0.1	0.0	2.6	0.4	0.9	1.0	2.1	1.0	1.0
Cycle Q Clear(g_c), s	3.0	0.0	3.1	3.2	0.0	2.6	0.4	0.9	1.0	2.1	1.0	1.0
Prop In Lane	0.01		0.09	0.46		0.39	1.00		0.81	1.00		0.08
Lane Grp Cap(c), veh/h	821	0	646	661	0	617	38	262	241	144	375	389
V/C Ratio(X)	0.27	0.00	0.31	0.26	0.00	0.27	0.55	0.19	0.21	0.74	0.16	0.16
Avail Cap(c_a), veh/h	1653	0	1396	1248	0	1334	1001	1481	1361	982	1498	1554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.8	0.0	7.8	7.5	0.0	7.6	17.5	13.5	13.6	16.2	11.7	11.7
Incr Delay (d2), s/veh	0.4	0.0	0.6	0.4	0.0	0.5	16.6	0.7	0.9	10.1	0.4	0.4
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	1.7	0.0	1.5	1.2	0.0	1.2	0.4	0.5	0.5	1.4	0.5	0.5
LnGrp Delay(d),s/veh	8.2	0.0	8.4	8.0	0.0	8.1	34.1	14.3	14.5	26.3	12.1	12.1
LnGrp LOS	A		A	A		A	C	B	B	C	B	B
Approach Vol, veh/h		428			337			121			226	
Approach Delay, s/veh		8.3			8.1			17.8			18.8	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		18.9	4.8	12.5		18.9	6.9	10.3
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		30.0	20.0	30.0		30.0	20.0	30.0
Max Q Clear Time (g_c+I1), s		5.1	2.4	3.0		5.2	4.1	3.0
Green Ext Time (p_c), s		9.0	0.0	2.3		9.0	0.3	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	11.4
HCM 2010 LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	18	324	171	42	200	77	67	34	113	5
v/c Ratio	0.07	0.40	0.22	0.16	0.11	0.26	0.15	0.13	0.30	0.01
Control Delay	33.9	23.4	5.2	32.7	15.0	31.7	21.1	33.0	28.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	23.4	5.2	32.7	15.0	31.7	21.1	33.0	28.4	0.0
Queue Length 50th (ft)	7	115	0	16	23	29	16	13	42	0
Queue Length 95th (ft)	30	248	46	53	70	81	58	46	98	0
Internal Link Dist (ft)		1207			123		264		1057	
Turn Bay Length (ft)	134			61		70		100		
Base Capacity (vph)	855	1080	992	684	1872	684	986	684	1008	911
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.30	0.17	0.06	0.11	0.11	0.07	0.05	0.11	0.01

Intersection Summary

Description: Changed to NEMA phasing, adjust min errors to allow 2010 HCS report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	295	156	38	173	9	70	51	10	31	103	5
Future Volume (veh/h)	16	295	156	38	173	9	70	51	10	31	103	5
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	18	324	171	42	190	10	77	56	11	34	113	5
Adj No. of Lanes	1	1	1	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	33	578	491	67	1129	59	104	202	40	57	200	169
Arrive On Green	0.02	0.30	0.30	0.04	0.32	0.32	0.06	0.13	0.13	0.03	0.11	0.11
Sat Flow, veh/h	1810	1900	1615	1810	3490	183	1810	1543	303	1810	1900	1610
Grp Volume(v), veh/h	18	324	171	42	98	102	77	0	67	34	113	5
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1805	1868	1810	0	1847	1810	1900	1610
Q Serve(g_s), s	0.4	5.8	3.3	0.9	1.6	1.6	1.7	0.0	1.3	0.7	2.3	0.1
Cycle Q Clear(g_c), s	0.4	5.8	3.3	0.9	1.6	1.6	1.7	0.0	1.3	0.7	2.3	0.1
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	33	578	491	67	584	604	104	0	242	57	200	169
V/C Ratio(X)	0.55	0.56	0.35	0.62	0.17	0.17	0.74	0.00	0.28	0.60	0.57	0.03
Avail Cap(c_a), veh/h	1122	1178	1001	898	1119	1158	898	0	1282	898	1320	1118
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.6	11.8	10.9	19.1	9.8	9.8	18.7	0.0	15.8	19.3	17.2	16.2
Incr Delay (d2), s/veh	18.8	1.2	0.6	12.7	0.2	0.2	13.8	0.0	0.9	13.5	3.6	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	0.4	3.2	1.6	0.7	0.8	0.8	1.2	0.0	0.7	0.6	1.4	0.1
LnGrp Delay(d),s/veh	38.5	13.0	11.5	31.8	9.9	10.0	32.5	0.0	16.7	32.8	20.7	16.3
LnGrp LOS	D	B	B	C	A	A	C		B	C	C	B
Approach Vol, veh/h		513			242			144			152	
Approach Delay, s/veh		13.4			13.7			25.1			23.3	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.5	18.3	6.3	10.2	4.7	19.0	5.3	11.3
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	20.0	25.0	20.0	28.0	25.0	25.0	20.0	28.0
Max Q Clear Time (g_c+I1), s	2.9	7.8	3.7	4.3	2.4	3.6	2.7	3.3
Green Ext Time (p_c), s	0.1	4.5	0.2	1.3	0.0	4.9	0.1	1.3

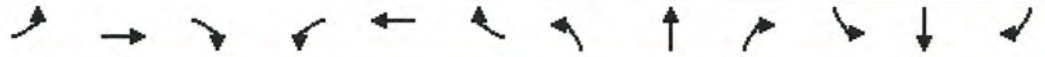
Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	16	507	94	341	197	207
v/c Ratio	0.03	0.66	0.20	0.35	0.45	0.50
Control Delay	5.7	19.7	6.3	9.6	18.4	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.7	19.7	6.3	9.6	18.4	23.2
Queue Length 50th (ft)	2	131	11	47	45	61
Queue Length 95th (ft)	9	#282	32	155	98	119
Internal Link Dist (ft)		2316		2595	3508	1148
Turn Bay Length (ft)	150		150			
Base Capacity (vph)	893	868	773	1067	818	797
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.58	0.12	0.32	0.24	0.26

Intersection Summary

Description: Changed City controller phase to E-W NEMA phase

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



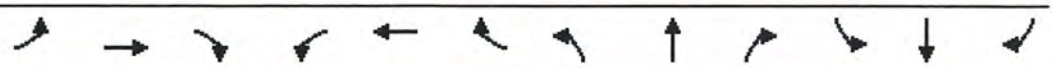
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	415	57	87	269	48	21	85	77	38	134	20
Future Volume (veh/h)	15	415	57	87	269	48	21	85	77	38	134	20
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1883	1900	1900	1884	1900	1900	1891	1900	1900	1887	1900
Adj Flow Rate, veh/h	16	446	61	94	289	52	23	91	83	41	144	22
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	0	1	1	1	1	1	1	1	1
Cap, veh/h	536	661	90	436	699	126	118	180	147	148	276	38
Arrive On Green	0.01	0.41	0.41	0.05	0.45	0.45	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1810	1622	222	1810	1555	280	107	886	723	222	1355	187
Grp Volume(v), veh/h	16	0	507	94	0	341	197	0	0	207	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1844	1810	0	1835	1716	0	0	1764	0	0
Q Serve(g_s), s	0.2	0.0	9.4	1.2	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	9.4	1.2	0.0	5.3	4.2	0.0	0.0	4.2	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.15	0.12		0.42	0.20		0.11
Lane Grp Cap(c), veh/h	536	0	752	436	0	825	445	0	0	462	0	0
V/C Ratio(X)	0.03	0.00	0.67	0.22	0.00	0.41	0.44	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	1315	0	1059	1139	0	1054	1062	0	0	1083	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.2	0.0	10.1	7.6	0.0	7.8	14.9	0.0	0.0	14.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.5	0.2	0.0	0.5	1.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	5.0	0.6	0.0	2.8	2.1	0.0	0.0	2.3	0.0	0.0
LnGrp Delay(d),s/veh	7.3	0.0	11.6	7.8	0.0	8.3	15.9	0.0	0.0	15.9	0.0	0.0
LnGrp LOS	A		B	A		A	B			B		
Approach Vol, veh/h		523			435			197			207	
Approach Delay, s/veh		11.5			8.2			15.9			15.9	
Approach LOS		B			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	22.0		13.5	4.5	23.8		13.5
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	18.5	24.0		24.0	18.5	24.0		24.0
Max Q Clear Time (g_c+I1), s	3.2	11.4		6.2	2.2	7.3		6.2
Green Ext Time (p_c), s	0.2	5.6		3.2	0.0	6.7		3.2

Intersection Summary	
HCM 2010 Ctrl Delay	11.7
HCM 2010 LOS	B

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	11	350	24	188	151	133	5
v/c Ratio	0.03	0.38	0.07	0.20	0.34	0.26	0.01
Control Delay	18.3	10.6	17.8	9.4	15.0	14.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	10.6	17.8	9.4	15.0	14.2	0.0
Queue Length 50th (ft)	2	38	3	19	19	17	0
Queue Length 95th (ft)	17	158	26	84	90	80	0
Internal Link Dist (ft)		3473		1032	470	3508	
Turn Bay Length (ft)	61		75				135
Base Capacity (vph)	776	1302	1292	1676	721	845	817
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.27	0.02	0.11	0.21	0.16	0.01

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	220	112	23	155	24	48	82	13	9	118	5
Future Volume (veh/h)	10	220	112	23	155	24	48	82	13	9	118	5
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1827	1884	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	232	118	24	163	25	51	86	14	9	124	5
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
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, %	0	0	0	4	1	1	0	0	0	0	0	0
Cap, veh/h	21	414	211	42	575	88	209	152	21	134	299	266
Arrive On Green	0.01	0.35	0.35	0.02	0.36	0.36	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1810	1189	605	1740	1596	245	336	922	129	66	1815	1615
Grp Volume(v), veh/h	11	0	350	24	0	188	151	0	0	133	0	5
Grp Sat Flow(s),veh/h/ln	1810	0	1793	1740	0	1840	1387	0	0	1881	0	1615
Q Serve(g_s), s	0.2	0.0	4.9	0.4	0.0	2.3	1.5	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.2	0.0	4.9	0.4	0.0	2.3	3.5	0.0	0.0	2.0	0.0	0.1
Prop In Lane	1.00		0.34	1.00		0.13	0.34		0.09	0.07		1.00
Lane Grp Cap(c), veh/h	21	0	624	42	0	664	382	0	0	433	0	266
V/C Ratio(X)	0.52	0.00	0.56	0.57	0.00	0.28	0.39	0.00	0.00	0.31	0.00	0.02
Avail Cap(c_a), veh/h	867	0	1432	1389	0	1411	940	0	0	1071	0	825
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.4	0.0	8.3	15.1	0.0	7.1	12.4	0.0	0.0	11.7	0.0	11.0
Incr Delay (d2), s/veh	25.6	0.0	1.1	16.4	0.0	0.3	0.9	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.6	0.4	0.0	1.2	1.3	0.0	0.0	1.1	0.0	0.0
LnGrp Delay(d),s/veh	41.0	0.0	9.4	31.5	0.0	7.5	13.3	0.0	0.0	12.3	0.0	11.0
LnGrp LOS	D		A	C		A	B			B		B
Approach Vol, veh/h		361			212			151			138	
Approach Delay, s/veh		10.4			10.2			13.3			12.3	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.8	16.4		10.2	4.4	16.8		10.2
Change Period (Y+Rc), s	4.0	5.5		5.0	4.0	5.5		5.0
Max Green Setting (Gmax), s	25.0	25.0		16.0	15.0	24.0		16.0
Max Q Clear Time (g_c+I1), s	2.4	6.9		4.0	2.2	4.3		5.5
Green Ext Time (p_c), s	0.0	4.0		1.7	0.0	4.1		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	56	136	10	70	178
Future Vol, veh/h	19	56	136	10	70	178
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	91	91	91	91	91	91
Heavy Vehicles, %	0	2	1	0	1	1
Mvmt Flow	21	62	149	11	77	196

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	504	155	0	0	160	0
Stage 1	155	-	-	-	-	-
Stage 2	349	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.209	-
Pot Cap-1 Maneuver	531	891	-	-	1425	-
Stage 1	878	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	499	891	-	-	1425	-
Mov Cap-2 Maneuver	499	-	-	-	-	-
Stage 1	878	-	-	-	-	-
Stage 2	675	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	2.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	743	1425	-
HCM Lane V/C Ratio	-	-	0.111	0.054	-
HCM Control Delay (s)	-	-	10.4	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

10' 5'

Intersection	
Int Delay, s/veh	13

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	309	48	64	143	0	20	0	162	0	201	103
Future Vol, veh/h	0	309	48	64	143	0	20	0	162	0	201	103
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	3
Mvmt Flow	0	332	52	69	154	0	22	0	174	0	216	111

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	384	0	0	813	649	358	736	675	154
Stage 1	-	-	-	-	-	-	358	358	-	291	291	-
Stage 2	-	-	-	-	-	-	455	291	-	445	384	-
Critical Hdwy	-	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.327
Pot Cap-1 Maneuver	0	-	-	1186	-	0	299	391	691	337	378	889
Stage 1	0	-	-	-	-	0	664	631	-	721	675	-
Stage 2	0	-	-	-	-	0	589	675	-	596	615	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1186	-	-	128	366	691	240	354	889
Mov Cap-2 Maneuver	-	-	-	-	-	-	128	366	-	240	354	-
Stage 1	-	-	-	-	-	-	664	631	-	721	632	-
Stage 2	-	-	-	-	-	-	318	632	-	446	615	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.5	18.2	32.4
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	466	-	-	1186	-	445
HCM Lane V/C Ratio	0.42	-	-	0.058	-	0.735
HCM Control Delay (s)	18.2	-	-	8.2	0	32.4
HCM Lane LOS	C	-	-	A	A	D
HCM 95th %tile Q(veh)	2	-	-	0.2	-	5.9

50' 5' 147.5'

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	464	59	221	7	23	284	91	326
v/c Ratio	0.76	0.10	0.62	0.06	0.17	0.56	0.44	0.37
Control Delay	39.1	3.0	47.9	1.0	54.6	46.4	53.1	36.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.1	3.0	47.9	1.0	54.6	46.4	53.1	36.9
Queue Length 50th (ft)	248	0	124	0	13	85	53	94
Queue Length 95th (ft)	462	17	262	0	49	170	131	181
Internal Link Dist (ft)	49		154			343		461
Turn Bay Length (ft)				25	157		232	
Base Capacity (vph)	996	914	612	116	588	1147	588	1176
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.06	0.36	0.06	0.04	0.25	0.15	0.28

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	254	53	13	186	6	21	247	9	82	293	0
Future Volume (veh/h)	164	254	53	13	186	6	21	247	9	82	293	0
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1882	1900	1900	1860	1900	1900	1900	1900
Adj Flow Rate, veh/h	182	282	59	14	207	0	23	274	10	91	326	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	0	1	1	0	0	1	1	0	0	0
Cap, veh/h	227	351	509	19	278	255	47	506	18	122	673	0
Arrive On Green	0.32	0.32	0.32	0.16	0.16	0.00	0.03	0.15	0.15	0.07	0.19	0.00
Sat Flow, veh/h	719	1115	1615	119	1758	1615	1810	3479	127	1810	3705	0
Grp Volume(v), veh/h	464	0	59	221	0	0	23	139	145	91	326	0
Grp Sat Flow(s),veh/h/ln	1834	0	1615	1876	0	1615	1810	1767	1838	1810	1805	0
Q Serve(g_s), s	14.8	0.0	1.7	7.2	0.0	0.0	0.8	4.6	4.7	3.1	5.1	0.0
Cycle Q Clear(g_c), s	14.8	0.0	1.7	7.2	0.0	0.0	0.8	4.6	4.7	3.1	5.1	0.0
Prop In Lane	0.39		1.00	0.06		1.00	1.00		0.07	1.00		0.00
Lane Grp Cap(c), veh/h	578	0	509	297	0	255	47	257	267	122	673	0
V/C Ratio(X)	0.80	0.00	0.12	0.74	0.00	0.00	0.48	0.54	0.54	0.75	0.48	0.00
Avail Cap(c_a), veh/h	1439	0	1267	884	0	760	852	832	865	852	1700	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.0	0.0	15.5	25.6	0.0	0.0	30.6	25.2	25.3	29.2	23.2	0.0
Incr Delay (d2), s/veh	2.7	0.0	0.1	3.7	0.0	0.0	7.5	1.3	1.3	8.8	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.0	0.7	4.0	0.0	0.0	0.5	2.4	2.5	1.9	2.6	0.0
LnGrp Delay(d),s/veh	22.7	0.0	15.6	29.3	0.0	0.0	38.0	26.6	26.5	38.0	23.4	0.0
LnGrp LOS	C		B	C			D	C	C	D	C	
Approach Vol, veh/h		523			221			307			417	
Approach Delay, s/veh		21.9			29.3			27.4			26.6	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.7	16.9		15.1	9.3	14.3		25.1
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	2.8	7.1		9.2	5.1	6.7		16.8
Green Ext Time (p_c), s	0.0	2.6		1.1	0.2	2.6		3.3

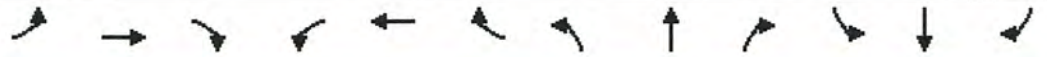
Intersection Summary	
HCM 2010 Ctrl Delay	25.5
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	42	620	86	482	59	114	69	131
v/c Ratio	0.08	0.65	0.22	0.46	0.17	0.37	0.19	0.36
Control Delay	9.7	25.7	10.5	18.7	19.2	24.1	19.5	27.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.7	25.7	10.5	18.7	19.2	24.1	19.5	27.8
Queue Length 50th (ft)	8	247	17	167	19	31	23	49
Queue Length 95th (ft)	24	#434	41	273	38	64	43	86
Internal Link Dist (ft)		2595		1832		2145		5230
Turn Bay Length (ft)	168		166		79		113	
Base Capacity (vph)	772	950	661	1037	591	583	582	586
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.65	0.13	0.46	0.10	0.20	0.12	0.22

Intersection Summary

Description: Plan 1

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	441	43	67	337	39	46	45	44	54	73	29
Future Volume (veh/h)	33	441	43	67	337	39	46	45	44	54	73	29
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1883	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	42	565	55	86	432	50	59	58	56	69	94	37
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	0	1	1	0	0	0	0	0	0	0	0	0
Cap, veh/h	489	811	79	406	852	99	244	95	91	258	148	58
Arrive On Green	0.03	0.48	0.48	0.06	0.51	0.51	0.04	0.11	0.11	0.05	0.11	0.11
Sat Flow, veh/h	1810	1689	164	1810	1672	194	1810	890	859	1810	1299	511
Grp Volume(v), veh/h	42	0	620	86	0	482	59	0	114	69	0	131
Grp Sat Flow(s),veh/h/ln	1810	0	1854	1810	0	1866	1810	0	1748	1810	0	1810
Q Serve(g_s), s	0.7	0.0	16.3	1.4	0.0	10.7	1.8	0.0	3.9	2.1	0.0	4.3
Cycle Q Clear(g_c), s	0.7	0.0	16.3	1.4	0.0	10.7	1.8	0.0	3.9	2.1	0.0	4.3
Prop In Lane	1.00		0.09	1.00		0.10	1.00		0.49	1.00		0.28
Lane Grp Cap(c), veh/h	489	0	890	406	0	950	244	0	186	258	0	206
V/C Ratio(X)	0.09	0.00	0.70	0.21	0.00	0.51	0.24	0.00	0.61	0.27	0.00	0.64
Avail Cap(c_a), veh/h	1008	0	890	874	0	950	751	0	616	752	0	637
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.2	0.0	12.7	9.2	0.0	10.1	23.7	0.0	26.7	23.4	0.0	26.5
Incr Delay (d2), s/veh	0.1	0.0	4.5	0.3	0.0	1.9	0.5	0.0	4.6	0.6	0.0	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	9.4	0.7	0.0	6.0	0.9	0.0	2.1	1.1	0.0	2.4
LnGrp Delay(d),s/veh	8.3	0.0	17.2	9.5	0.0	12.1	24.2	0.0	31.3	23.9	0.0	31.1
LnGrp LOS	A		B	A		B	C		C	C		C
Approach Vol, veh/h		662			568			173			200	
Approach Delay, s/veh		16.6			11.7			28.8			28.6	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	36.8	7.4	11.6	8.4	35.0	7.0	12.1
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	20.0	30.0	20.0	22.0	20.0	30.0	20.0	22.0
Max Q Clear Time (g_c+I1), s	2.7	12.7	4.1	5.9	3.4	18.3	3.8	6.3
Green Ext Time (p_c), s	0.1	11.0	0.1	1.6	0.2	8.1	0.1	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	17.7
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	21	0	43	0	0	0	24	33	0	0	73	25
Future Vol, veh/h	21	0	43	0	0	0	24	33	0	0	73	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	5	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	24	0	50	0	0	0	28	38	0	0	85	29

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	193	193	99	218	208	38	114	0	0	38	0	0
Stage 1	99	99	-	94	94	-	-	-	-	-	-	-
Stage 2	94	94	-	124	114	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	760	706	962	743	692	1040	1488	-	-	1585	-	-
Stage 1	900	817	-	918	821	-	-	-	-	-	-	-
Stage 2	906	821	-	885	805	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	749	693	962	694	679	1040	1488	-	-	1585	-	-
Mov Cap-2 Maneuver	749	693	-	694	679	-	-	-	-	-	-	-
Stage 1	883	817	-	901	805	-	-	-	-	-	-	-
Stage 2	889	805	-	839	805	-	-	-	-	-	-	-

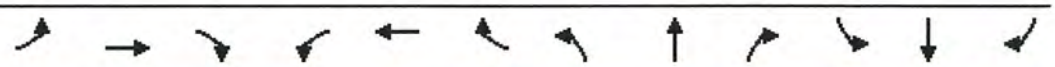
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	0	3.1	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1488	-	-	880	-	1585	-	-
HCM Lane V/C Ratio	0.019	-	-	0.085	-	-	-	-
HCM Control Delay (s)	7.5	0	-	9.5	0	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	-	0	-	-

2.5' 7.5'

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	93	547	168	407	133	294	47	306
v/c Ratio	0.41	0.60	0.55	0.64	0.49	0.32	0.27	0.49
Control Delay	46.7	28.8	44.0	32.6	45.2	21.7	47.8	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	28.8	44.0	32.6	45.2	21.7	47.8	34.1
Queue Length 50th (ft)	44	111	79	180	63	47	23	69
Queue Length 95th (ft)	121	221	191	373	159	101	74	138
Internal Link Dist (ft)		140		200		6700		1848
Turn Bay Length (ft)	108		112		131		184	
Base Capacity (vph)	562	1715	556	932	674	1669	674	1734
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.32	0.30	0.44	0.20	0.18	0.07	0.18

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	297	168	143	306	40	113	154	96	40	197	63
Future Volume (veh/h)	79	297	168	143	306	40	113	154	96	40	197	63
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1876	1900	1881	1883	1900	1900	1824	1900	1900	1886	1900
Adj Flow Rate, veh/h	93	349	198	168	360	47	133	181	113	47	232	74
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	2	2	1	1	1	0	3	3	0	1	1
Cap, veh/h	124	622	347	220	548	72	178	451	268	82	437	136
Arrive On Green	0.07	0.28	0.28	0.12	0.34	0.34	0.10	0.22	0.22	0.05	0.16	0.16
Sat Flow, veh/h	1810	2210	1231	1792	1633	213	1810	2094	1244	1810	2692	838
Grp Volume(v), veh/h	93	280	267	168	0	407	133	148	146	47	152	154
Grp Sat Flow(s),veh/h/ln	1810	1782	1659	1792	0	1846	1810	1733	1605	1810	1791	1738
Q Serve(g_s), s	3.0	8.0	8.2	5.4	0.0	11.2	4.3	4.4	4.7	1.5	4.6	4.8
Cycle Q Clear(g_c), s	3.0	8.0	8.2	5.4	0.0	11.2	4.3	4.4	4.7	1.5	4.6	4.8
Prop In Lane	1.00		0.74	1.00		0.12	1.00		0.78	1.00		0.48
Lane Grp Cap(c), veh/h	124	502	467	220	0	620	178	373	345	82	291	282
V/C Ratio(X)	0.75	0.56	0.57	0.76	0.00	0.66	0.75	0.40	0.42	0.57	0.52	0.54
Avail Cap(c_a), veh/h	758	1195	1112	751	0	1237	910	1162	1076	910	1201	1165
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.3	18.3	18.4	25.3	0.0	16.9	26.2	20.1	20.2	27.9	22.9	23.0
Incr Delay (d2), s/veh	8.7	1.0	1.1	5.4	0.0	1.2	6.2	0.5	0.6	6.2	1.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	4.0	3.8	3.0	0.0	5.9	2.4	2.2	2.1	0.9	2.4	2.4
LnGrp Delay(d),s/veh	36.0	19.2	19.5	30.8	0.0	18.1	32.4	20.6	20.8	34.1	24.1	24.4
LnGrp LOS	D	B	B	C		B	C	C	C	C	C	C
Approach Vol, veh/h		640			575			427			353	
Approach Delay, s/veh		21.8			21.8			24.4			25.6	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	18.3	11.8	21.3	11.4	15.2	8.6	24.5
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	40.0	30.0	40.0	25.0	40.0
Max Q Clear Time (g_c+I1), s	3.5	6.7	7.4	10.2	6.3	6.8	5.0	13.2
Green Ext Time (p_c), s	0.1	2.8	0.4	6.6	0.3	2.8	0.2	6.4

Intersection Summary	
HCM 2010 Ctrl Delay	23.0
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	179	346	0	0	335	10	0	0	0	15	0	172
Future Vol, veh/h	179	346	0	0	335	10	0	0	0	15	0	172
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	0	0	0	0	0	0	0	33	0	22
Mvmt Flow	227	438	0	0	424	13	0	0	0	19	0	218

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	437	0	0	438	0	0	1430	1328	439	1322	1321	430
Stage 1	-	-	-	-	-	-	891	891	-	430	430	-
Stage 2	-	-	-	-	-	-	539	437	-	892	891	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.43	6.5	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.43	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.43	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.797	4	3.498
Pot Cap-1 Maneuver	1128	-	-	1133	-	-	113	157	622	115	158	585
Stage 1	-	-	-	-	-	-	340	363	-	547	587	-
Stage 2	-	-	-	-	-	-	530	583	-	297	363	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1128	-	-	1132	-	-	60	125	621	97	126	585
Mov Cap-2 Maneuver	-	-	-	-	-	-	60	125	-	97	126	-
Stage 1	-	-	-	-	-	-	272	290	-	437	587	-
Stage 2	-	-	-	-	-	-	333	583	-	237	290	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.1	0	0	17.7
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1128	-	-	1132	-	-	97	585
HCM Lane V/C Ratio	-	0.201	-	-	-	-	-	0.196	0.372
HCM Control Delay (s)	0	9	-	-	0	-	-	50.9	14.8
HCM Lane LOS	A	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	-	0.7	-	-	0	-	-	0.7	1.7

17.5 17.5 42.5

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	242	15	21	48	88	295
Future Vol, veh/h	242	15	21	48	88	295
Conflicting Peds, #/hr	0	0	1	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	0	0	2	0	0
Mvmt Flow	266	16	23	53	97	324

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	197	98	98	0	-	0
Stage 1	98	-	-	-	-	-
Stage 2	99	-	-	-	-	-
Critical Hdwy	6.42	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	792	963	1508	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	778	962	1508	-	-	-
Mov Cap-2 Maneuver	778	-	-	-	-	-
Stage 1	925	-	-	-	-	-
Stage 2	909	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1508	-	787	-	-
HCM Lane V/C Ratio	0.015	-	0.359	-	-
HCM Control Delay (s)	7.4	0	12.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.6	-	-

40'

YEAR 2025

LEVEL OF SERVICE CALCULATIONS

WITHOUT PROJECT

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	144	7	36	510	124	21	83	67	68	52	4
Future Volume (veh/h)	4	144	7	36	510	124	21	83	67	68	52	4
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1868	1900	1900	1883	1900	1900	1875	1900	1759	1836	1900
Adj Flow Rate, veh/h	4	157	8	39	554	135	23	90	73	74	57	4
Adj No. of Lanes	0	2	0	0	2	0	1	2	0	1	2	0
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, %	1	1	1	0	0	0	0	0	0	8	2	2
Cap, veh/h	99	1475	74	136	1198	284	41	313	231	93	641	45
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.02	0.16	0.16	0.06	0.19	0.19
Sat Flow, veh/h	16	3332	166	89	2707	640	1810	1949	1435	1675	3309	230
Grp Volume(v), veh/h	89	0	80	391	0	337	23	81	82	74	30	31
Grp Sat Flow(s),veh/h/ln	1844	0	1670	1836	0	1601	1810	1781	1602	1675	1744	1795
Q Serve(g_s), s	0.0	0.0	1.2	0.0	0.0	6.1	0.5	1.7	1.8	1.8	0.6	0.6
Cycle Q Clear(g_c), s	1.1	0.0	1.2	6.0	0.0	6.1	0.5	1.7	1.8	1.8	0.6	0.6
Prop In Lane	0.05		0.10	0.10		0.40	1.00		0.90	1.00		0.13
Lane Grp Cap(c), veh/h	908	0	740	909	0	709	41	286	257	93	338	348
V/C Ratio(X)	0.10	0.00	0.11	0.43	0.00	0.48	0.57	0.28	0.32	0.80	0.09	0.09
Avail Cap(c_a), veh/h	1412	0	1221	1424	0	1170	882	1302	1171	816	1274	1312
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.7	0.0	6.7	8.0	0.0	8.1	19.9	15.2	15.2	19.2	13.6	13.6
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.7	0.0	1.1	16.4	1.2	1.5	19.2	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	0.6	0.0	0.6	3.2	0.0	2.8	0.4	0.9	0.9	1.3	0.3	0.3
LnGrp Delay(d),s/veh	6.8	0.0	6.8	8.7	0.0	9.1	36.2	16.3	16.7	38.3	13.8	13.8
LnGrp LOS	A		A	A		A	D	B	B	D	B	B
Approach Vol, veh/h		169			728			186			135	
Approach Delay, s/veh		6.8			8.9			19.0			27.2	
Approach LOS		A			A			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.2	4.9	13.0		23.2	6.3	11.6
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		30.0	20.0	30.0		30.0	20.0	30.0
Max Q Clear Time (g_c+I1), s		3.2	2.5	2.6		8.1	3.8	3.8
Green Ext Time (p_c), s		11.2	0.0	2.4		10.1	0.2	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	144	39	11	429	22	238	106	25	17	41	12
Future Volume (veh/h)	1	144	39	11	429	22	238	106	25	17	41	12
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1776	1900	1900	1859	1900	1900	1885	1900	1900	1810	1900
Adj Flow Rate, veh/h	1	158	43	12	471	24	262	116	27	19	45	13
Adj No. of Lanes	1	1	1	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	7	0	0	2	2	0	1	1	0	5	0
Cap, veh/h	4	473	431	23	951	48	355	340	79	34	95	85
Arrive On Green	0.00	0.27	0.27	0.01	0.28	0.28	0.20	0.23	0.23	0.02	0.05	0.05
Sat Flow, veh/h	1810	1776	1615	1810	3421	174	1810	1480	344	1810	1810	1615
Grp Volume(v), veh/h	1	158	43	12	243	252	262	0	143	19	45	13
Grp Sat Flow(s),veh/h/ln	1810	1776	1615	1810	1766	1829	1810	0	1824	1810	1810	1615
Q Serve(g_s), s	0.0	3.0	0.8	0.3	4.9	4.9	5.8	0.0	2.8	0.4	1.0	0.3
Cycle Q Clear(g_c), s	0.0	3.0	0.8	0.3	4.9	4.9	5.8	0.0	2.8	0.4	1.0	0.3
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	4	473	431	23	491	508	355	0	419	34	95	85
V/C Ratio(X)	0.23	0.33	0.10	0.53	0.49	0.50	0.74	0.00	0.34	0.56	0.47	0.15
Avail Cap(c_a), veh/h	1068	1048	953	855	1043	1079	855	0	1206	855	1196	1068
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	12.5	11.7	20.8	12.8	12.8	16.0	0.0	13.6	20.6	19.5	19.2
Incr Delay (d2), s/veh	35.9	0.6	0.1	25.1	1.1	1.1	4.2	0.0	0.7	18.5	5.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.6	0.4	0.3	2.5	2.6	3.3	0.0	1.5	0.4	0.6	0.2
LnGrp Delay(d),s/veh	57.0	13.1	11.8	45.9	13.9	13.9	20.2	0.0	14.3	39.1	24.6	20.3
LnGrp LOS	E	B	B	D	B	B	C		B	D	C	C
Approach Vol, veh/h		202			507			405			77	
Approach Delay, s/veh		13.0			14.6			18.1			27.5	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.5	17.3	12.3	8.2	4.0	17.8	4.8	15.7
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	20.0	25.0	20.0	28.0	25.0	25.0	20.0	28.0
Max Q Clear Time (g_c+I1), s	2.3	5.0	7.8	3.0	2.0	6.9	2.4	4.8
Green Ext Time (p_c), s	0.0	5.1	0.9	1.5	0.0	4.9	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	465	38	26	300	9	58	52	31	81	123	103
Future Volume (veh/h)	57	465	38	26	300	9	58	52	31	81	123	103
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1849	1900	1900	1822	1900	1900	1856	1900	1900	1886	1900
Adj Flow Rate, veh/h	65	528	43	30	341	10	66	59	35	92	140	117
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	3	3	0	4	4	2	2	2	1	1	1
Cap, veh/h	457	682	56	295	681	20	245	206	98	187	227	163
Arrive On Green	0.04	0.40	0.40	0.02	0.39	0.39	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1774	1687	137	1810	1762	52	485	699	332	327	771	553
Grp Volume(v), veh/h	65	0	571	30	0	351	160	0	0	349	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1824	1810	0	1813	1516	0	0	1650	0	0
Q Serve(g_s), s	1.1	0.0	13.5	0.5	0.0	7.3	0.0	0.0	0.0	5.6	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	13.5	0.5	0.0	7.3	3.6	0.0	0.0	9.2	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.03	0.41		0.22	0.26		0.34
Lane Grp Cap(c), veh/h	457	0	737	295	0	701	549	0	0	577	0	0
V/C Ratio(X)	0.14	0.00	0.77	0.10	0.00	0.50	0.29	0.00	0.00	0.60	0.00	0.00
Avail Cap(c_a), veh/h	1048	0	878	929	0	873	812	0	0	877	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.1	0.0	12.9	10.6	0.0	11.6	13.6	0.0	0.0	15.6	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	4.2	0.1	0.0	0.8	0.4	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	7.5	0.2	0.0	3.8	1.8	0.0	0.0	4.5	0.0	0.0
LnGrp Delay(d),s/veh	9.3	0.0	17.0	10.7	0.0	12.4	14.1	0.0	0.0	17.0	0.0	0.0
LnGrp LOS	A		B	B		B	B			B		
Approach Vol, veh/h		636			381			160			349	
Approach Delay, s/veh		16.2			12.3			14.1			17.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	25.2		19.7	5.9	24.3		19.7
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	18.5	24.0		24.0	18.5	24.0		24.0
Max Q Clear Time (g_c+I1), s	12.5	15.5		11.2	3.1	9.3		5.6
Green Ext Time (p_c), s	0.0	4.6		3.6	0.1	6.8		4.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	130	35	11	309	25	125	160	18	24	66	8
Future Volume (veh/h)	7	130	35	11	309	25	125	160	18	24	66	8
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1859	1900	1900	1883	1900	1900	1883	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	148	40	12	351	28	142	182	20	27	75	9
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	2	2	0	1	1	1	1	1	0	0	0
Cap, veh/h	15	454	123	23	561	45	293	278	27	196	439	461
Arrive On Green	0.01	0.32	0.32	0.01	0.33	0.33	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1810	1410	381	1810	1721	137	561	974	95	270	1537	1615
Grp Volume(v), veh/h	8	0	188	12	0	379	344	0	0	102	0	9
Grp Sat Flow(s),veh/h/ln	1810	0	1792	1810	0	1858	1629	0	0	1807	0	1615
Q Serve(g_s), s	0.2	0.0	3.0	0.3	0.0	6.6	5.6	0.0	0.0	0.0	0.0	0.2
Cycle Q Clear(g_c), s	0.2	0.0	3.0	0.3	0.0	6.6	7.2	0.0	0.0	1.5	0.0	0.2
Prop In Lane	1.00		0.21	1.00		0.07	0.41		0.06	0.26		1.00
Lane Grp Cap(c), veh/h	15	0	577	23	0	606	598	0	0	635	0	461
V/C Ratio(X)	0.52	0.00	0.33	0.53	0.00	0.63	0.57	0.00	0.00	0.16	0.00	0.02
Avail Cap(c_a), veh/h	711	0	1173	1185	0	1168	811	0	0	855	0	677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.8	0.0	9.8	18.7	0.0	10.9	12.2	0.0	0.0	10.3	0.0	9.8
Incr Delay (d2), s/veh	33.5	0.0	0.5	24.7	0.0	1.5	1.2	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.5	0.3	0.0	3.6	3.5	0.0	0.0	0.8	0.0	0.1
LnGrp Delay(d),s/veh	52.4	0.0	10.3	43.4	0.0	12.4	13.5	0.0	0.0	10.5	0.0	9.8
LnGrp LOS	D		B	D		B	B			B		A
Approach Vol, veh/h		196			391			344			111	
Approach Delay, s/veh		12.0			13.4			13.5			10.4	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.5	17.8		15.9	4.3	17.9		15.9
Change Period (Y+Rc), s	4.0	5.5		5.0	4.0	5.5		5.0
Max Green Setting (Gmax), s	25.6	25.0		16.0	15.0	24.0		16.0
Max Q Clear Time (g_c+I1), s	2.3	5.0		3.5	2.2	8.6		9.2
Green Ext Time (p_c), s	0.0	4.3		3.0	0.0	3.9		2.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.8
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	94	243	13	43	124
Future Vol, veh/h	7	94	243	13	43	124
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	79	79	79	79	79	79
Heavy Vehicles, %	0	0	3	0	3	5
Mvmt Flow	9	119	308	16	54	157

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	582	316	0	0	324	0
Stage 1	316	-	-	-	-	-
Stage 2	266	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.227	-
Pot Cap-1 Maneuver	479	729	-	-	1230	-
Stage 1	744	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	456	729	-	-	1230	-
Mov Cap-2 Maneuver	456	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	745	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	700	1230	-
HCM Lane V/C Ratio	-	-	0.183	0.044	-
HCM Control Delay (s)	-	-	11.3	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

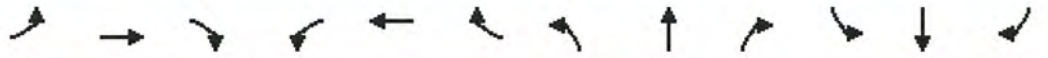
Intersection	
Int Delay, s/veh	10.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	251	46	53	218	0	29	0	229	0	152	35
Future Vol, veh/h	0	251	46	53	218	0	29	0	229	0	152	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	4	0	0	5	0	0	0	2	2	6	0
Mvmt Flow	0	285	52	60	248	0	33	0	260	0	173	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	338	0	0	785	679	311	809	706	248
Stage 1	-	-	-	-	-	-	311	311	-	368	368	-
Stage 2	-	-	-	-	-	-	474	368	-	441	338	-
Critical Hdwy	-	-	-	4.1	-	-	7.1	6.5	6.22	7.12	6.56	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.56	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.318	3.518	4.054	3.3
Pot Cap-1 Maneuver	0	-	-	1232	-	0	313	376	729	299	356	796
Stage 1	0	-	-	-	-	0	704	662	-	652	614	-
Stage 2	0	-	-	-	-	0	575	625	-	595	633	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1232	-	-	170	355	729	184	336	796
Mov Cap-2 Maneuver	-	-	-	-	-	-	170	355	-	184	336	-
Stage 1	-	-	-	-	-	-	704	662	-	652	580	-
Stage 2	-	-	-	-	-	-	362	590	-	383	633	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	19.8	26.2
HCM LOS			C	D

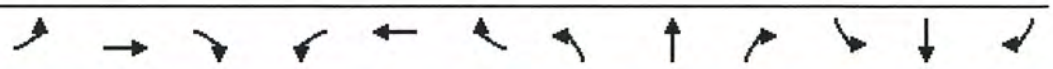
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	532	-	-	1232	-	377
HCM Lane V/C Ratio	0.551	-	-	0.049	-	0.564
HCM Control Delay (s)	19.8	-	-	8.1	0	26.2
HCM Lane LOS	C	-	-	A	A	D
HCM 95th %tile Q(veh)	3.3	-	-	0.2	-	3.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	251	46	53	218	0	29	0	229	0	152	35
Future Volume (vph)	0	251	46	53	218	0	29	0	229	0	152	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.5		4.5		4.5	4.5
Lane Util. Factor		0.95			1.00		1.00		1.00		1.00	1.00
Frpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Frt		0.98			1.00		1.00		0.85		1.00	0.85
Flt Protected		1.00			0.99		0.95		1.00		1.00	1.00
Satd. Flow (prot)		3497			1882		1805		1615		1900	1568
Flt Permitted		1.00			0.73		0.95		1.00		1.00	1.00
Satd. Flow (perm)		3497			1380		1805		1615		1900	1568
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	270	49	57	234	0	31	0	246	0	163	38
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	224	0	0	26
Lane Group Flow (vph)	0	307	0	0	291	0	31	0	22	0	163	12
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Turn Type		NA		Perm	NA		Prot		Prot		NA	Perm
Protected Phases		18 3 8			14 4!		15		15		6!	
Permitted Phases				14 4!								6
Actuated Green, G (s)		35.0			46.6		10.9		10.9		38.1	38.1
Effective Green, g (s)		35.0			46.6		10.9		10.9		38.1	38.1
Actuated g/C Ratio		0.29			0.38		0.09		0.09		0.31	0.31
Clearance Time (s)							4.5		4.5		4.5	4.5
Vehicle Extension (s)							3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1003			527		161		144		593	489
v/s Ratio Prot		0.09					c0.02		0.01		c0.09	
v/s Ratio Perm					c0.21							0.01
v/c Ratio		0.31			0.55		0.19		0.15		0.27	0.02
Uniform Delay, d1		34.0			29.5		51.5		51.3		31.6	29.1
Progression Factor		1.00			0.16		1.00		1.00		1.00	1.00
Incremental Delay, d2		0.1			0.6		0.6		0.5		1.1	0.1
Delay (s)		34.1			5.3		52.1		51.8		32.7	29.2
Level of Service		C			A		D		D		C	C
Approach Delay (s)		34.1			5.3			51.8			32.0	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

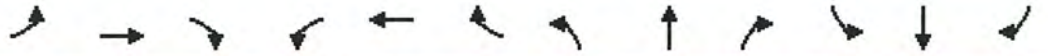
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	232	27	6	211	76	60	488	20	44	122	1
Future Volume (veh/h)	221	232	27	6	211	76	60	488	20	44	122	1
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1864	1900	1900	1882	1900	1900	1827	1900
Adj Flow Rate, veh/h	260	273	32	7	248	0	71	574	24	52	144	1
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	1	1	0	2	2	0	0	1	1	0	4	4
Cap, veh/h	303	318	538	9	307	274	94	747	31	76	719	5
Arrive On Green	0.34	0.34	0.34	0.17	0.17	0.00	0.05	0.21	0.21	0.04	0.20	0.20
Sat Flow, veh/h	896	941	1592	51	1810	1615	1810	3498	146	1810	3535	25
Grp Volume(v), veh/h	533	0	32	255	0	0	71	293	305	52	71	74
Grp Sat Flow(s),veh/h/ln	1836	0	1592	1861	0	1615	1810	1788	1856	1810	1736	1823
Q Serve(g_s), s	22.8	0.0	1.1	11.1	0.0	0.0	3.3	13.0	13.0	2.4	2.9	2.9
Cycle Q Clear(g_c), s	22.8	0.0	1.1	11.1	0.0	0.0	3.3	13.0	13.0	2.4	2.9	2.9
Prop In Lane	0.49		1.00	0.03		1.00	1.00		0.08	1.00		0.01
Lane Grp Cap(c), veh/h	620	0	538	316	0	274	94	382	397	76	353	371
V/C Ratio(X)	0.86	0.00	0.06	0.81	0.00	0.00	0.75	0.77	0.77	0.69	0.20	0.20
Avail Cap(c_a), veh/h	1088	0	944	662	0	574	644	636	660	644	617	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	0.0	18.9	33.7	0.0	0.0	39.5	31.2	31.2	39.9	27.9	27.9
Incr Delay (d2), s/veh	3.6	0.0	0.0	4.9	0.0	0.0	11.5	2.4	2.4	10.6	0.1	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	12.2	0.0	0.5	6.2	0.0	0.0	1.9	6.7	7.0	1.4	1.4	1.5
LnGrp Delay(d),s/veh	29.7	0.0	18.9	38.6	0.0	0.0	50.9	33.6	33.6	50.5	28.0	28.0
LnGrp LOS	C		B	D			D	C	C	D	C	C
Approach Vol, veh/h		565			255			669			197	
Approach Delay, s/veh		29.1			38.6			35.4			33.9	
Approach LOS		C			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.4	22.2		19.3	8.5	23.0		33.5
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	5.3	4.9		13.1	4.4	15.0		24.8
Green Ext Time (p_c), s	0.1	3.4		1.2	0.1	3.0		3.7

Intersection Summary	
HCM 2010 Ctrl Delay	33.6
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	232	27	6	211	76	60	488	20	44	122	1
Future Volume (vph)	221	232	27	6	211	76	60	488	20	44	122	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1698	1763	1593		1879	1615	1805	3574	1214	1805	3606	
Flt Permitted	0.95	0.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1698	0	1593		1861	1615	1805	3574	1214	1805	3606	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	246	258	30	7	234	84	67	542	22	49	136	1
RTOR Reduction (vph)	0	0	17	0	0	60	0	0	18	0	0	0
Lane Group Flow (vph)	221	283	13	0	241	24	67	542	4	49	137	0
Confl. Bikes (#/hr)			3									
Heavy Vehicles (%)	1%	2%	0%	0%	1%	0%	0%	1%	33%	0%	0%	0%
Turn Type	Prot	NA	custom	Perm	NA	Prot	Prot	NA	Perm	Prot	NA	
Protected Phases	3 16 15!	8 17 15			4!	4!	5!	2!		1!	6!	
Permitted Phases			8 17	4					2			
Actuated Green, G (s)	50.9	50.9	50.9		35.0	35.0	6.4	19.5	19.5	39.1	38.1	
Effective Green, g (s)	50.9	50.9	50.9		35.0	35.0	6.4	19.5	19.5	39.1	38.1	
Actuated g/C Ratio	0.42	0.42	0.42		0.29	0.29	0.05	0.16	0.16	0.32	0.31	
Clearance Time (s)					5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Vehicle Extension (s)					1.9	1.9	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	708	735	664		533	463	94	571	194	578	1126	
v/s Ratio Prot	0.13	c0.16				0.01	0.04	c0.15		0.03	c0.04	
v/s Ratio Perm			0.01		c0.13				0.00			
v/c Ratio	0.31	0.39	0.02		0.45	0.05	0.71	0.95	0.02	0.08	0.12	
Uniform Delay, d1	23.8	24.7	20.9		35.6	31.5	56.9	50.8	43.2	29.0	30.0	
Progression Factor	0.46	0.48	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.2	0.0		0.2	0.0	22.4	25.3	0.0	0.3	0.2	
Delay (s)	11.2	12.2	20.9		35.9	31.5	79.3	76.0	43.2	29.2	30.2	
Level of Service	B	B	C		D	C	E	E	D	C	C	
Approach Delay (s)		12.3			34.7			75.2			30.0	
Approach LOS		B			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	42.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	389	3	46	453	59	48	66	118	202	41	35
Future Volume (veh/h)	17	389	3	46	453	59	48	66	118	202	41	35
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.99	0.92		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1838	1900	1900	1864	1900	1863	1900	1900
Adj Flow Rate, veh/h	20	469	4	55	546	71	58	80	142	243	49	42
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	0	3	3	3	3	3	0	0	0	2	0	0
Cap, veh/h	270	848	7	379	766	100	360	105	187	365	250	215
Arrive On Green	0.01	0.46	0.46	0.03	0.48	0.48	0.04	0.18	0.18	0.13	0.27	0.27
Sat Flow, veh/h	1810	1826	16	1757	1593	207	1810	591	1049	1774	918	787
Grp Volume(v), veh/h	20	0	473	55	0	617	58	0	222	243	0	91
Grp Sat Flow(s),veh/h/ln	1810	0	1842	1757	0	1800	1810	0	1640	1774	0	1705
Q Serve(g_s), s	0.6	0.0	17.9	1.6	0.0	26.2	2.5	0.0	12.5	10.3	0.0	4.0
Cycle Q Clear(g_c), s	0.6	0.0	17.9	1.6	0.0	26.2	2.5	0.0	12.5	10.3	0.0	4.0
Prop In Lane	1.00		0.01	1.00		0.12	1.00		0.64	1.00		0.46
Lane Grp Cap(c), veh/h	270	0	855	379	0	865	360	0	292	365	0	465
V/C Ratio(X)	0.07	0.00	0.55	0.15	0.00	0.71	0.16	0.00	0.76	0.67	0.00	0.20
Avail Cap(c_a), veh/h	620	0	855	871	0	865	666	0	541	588	0	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.6	0.0	18.7	14.6	0.0	19.9	30.8	0.0	37.9	26.5	0.0	27.1
Incr Delay (d2), s/veh	0.1	0.0	2.6	0.2	0.0	5.0	0.2	0.0	8.4	2.1	0.0	0.4
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	0.3	0.0	9.7	0.8	0.0	14.2	1.3	0.0	6.4	5.2	0.0	1.9
LnGrp Delay(d),s/veh	16.7	0.0	21.3	14.8	0.0	24.8	31.0	0.0	46.3	28.6	0.0	27.5
LnGrp LOS	B		C	B		C	C		D	C		C
Approach Vol, veh/h		493			672			280			334	
Approach Delay, s/veh		21.1			24.0			43.1			28.3	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	51.6	17.3	22.3	7.4	50.0	8.1	31.4
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	20.0	30.0	25.0	32.0	30.0	45.0	20.0	25.0
Max Q Clear Time (g_c+I1), s	2.6	28.2	12.3	14.5	3.6	19.9	4.5	6.0
Green Ext Time (p_c), s	0.0	1.4	0.5	2.5	0.1	14.0	0.1	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	27.0
HCM 2010 LOS	C

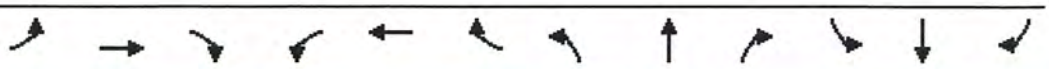
Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	85	0	15	0	0	0	65	82	0	0	32	60
Future Vol, veh/h	85	0	15	0	0	0	65	82	0	0	32	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	4	0	0	0	0	0	2	0	0	0	0	0
Mvmt Flow	104	0	18	0	0	0	79	100	0	0	39	73

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	335	335	76	344	371	100	112	0	0	100	0	0
Stage 1	76	76	-	259	259	-	-	-	-	-	-	-
Stage 2	259	259	-	85	112	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4	3.3	3.5	4	3.3	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	615	589	991	614	562	961	1478	-	-	1505	-	-
Stage 1	928	836	-	750	697	-	-	-	-	-	-	-
Stage 2	741	697	-	928	807	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	588	555	991	576	530	961	1478	-	-	1505	-	-
Mov Cap-2 Maneuver	588	555	-	576	530	-	-	-	-	-	-	-
Stage 1	875	836	-	707	657	-	-	-	-	-	-	-
Stage 2	699	657	-	911	807	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	0	3.3	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1478	-	-	626	-	1505	-	-
HCM Lane V/C Ratio	0.054	-	-	0.195	-	-	-	-
HCM Control Delay (s)	7.6	0	-	12.1	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.7	-	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	255	66	72	219	85	142	323	158	28	98	80
Future Volume (veh/h)	139	255	66	72	219	85	142	323	158	28	98	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1837	1900	1810	1850	1900	1845	1857	1900	1900	1794	1900
Adj Flow Rate, veh/h	149	274	71	77	235	91	153	347	170	30	105	86
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	3	3	5	3	3	3	3	3	0	5	5
Cap, veh/h	197	889	226	106	347	134	202	538	259	60	280	211
Arrive On Green	0.11	0.32	0.32	0.06	0.27	0.27	0.11	0.23	0.23	0.03	0.15	0.15
Sat Flow, veh/h	1774	2757	702	1723	1271	492	1757	2312	1112	1810	1856	1396
Grp Volume(v), veh/h	149	172	173	77	0	326	153	263	254	30	96	95
Grp Sat Flow(s),veh/h/ln	1774	1745	1713	1723	0	1763	1757	1764	1660	1810	1704	1548
Q Serve(g_s), s	4.7	4.2	4.4	2.5	0.0	9.4	4.8	7.7	7.9	0.9	2.9	3.2
Cycle Q Clear(g_c), s	4.7	4.2	4.4	2.5	0.0	9.4	4.8	7.7	7.9	0.9	2.9	3.2
Prop In Lane	1.00		0.41	1.00		0.28	1.00		0.67	1.00		0.90
Lane Grp Cap(c), veh/h	197	563	552	106	0	482	202	411	387	60	258	234
V/C Ratio(X)	0.76	0.30	0.31	0.72	0.00	0.68	0.76	0.64	0.66	0.50	0.37	0.41
Avail Cap(c_a), veh/h	776	1221	1199	754	0	1234	922	1234	1162	950	1193	1083
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	14.6	14.6	26.3	0.0	18.5	24.5	19.8	19.9	27.2	21.8	21.9
Incr Delay (d2), s/veh	5.8	0.3	0.3	8.9	0.0	1.7	5.7	1.2	1.4	6.3	0.8	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.0	2.1	1.5	0.0	4.8	2.7	3.9	3.7	0.6	1.4	1.4
LnGrp Delay(d),s/veh	30.5	14.9	14.9	35.3	0.0	20.2	30.3	21.0	21.3	33.5	22.6	22.9
LnGrp LOS	C	B	B	D		C	C	C	C	C	C	C
Approach Vol, veh/h		494			403			670			221	
Approach Delay, s/veh		19.6			23.1			23.2			24.2	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	18.8	8.0	22.9	12.1	14.1	10.8	20.1
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	40.0	30.0	40.0	25.0	40.0
Max Q Clear Time (g_c+I1), s	2.9	9.9	4.5	6.4	6.8	5.2	6.7	11.4
Green Ext Time (p_c), s	0.0	3.4	0.2	4.4	0.4	3.4	0.3	4.3

Intersection Summary	
HCM 2010 Ctrl Delay	22.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	227	227	2	0	221	23	0	0	0	6	0	112
Future Vol, veh/h	227	227	2	0	221	23	0	0	0	6	0	112
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	-	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	0	5	0	0	0	0	0	0	4
Mvmt Flow	252	252	2	0	246	26	0	0	0	7	0	124

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	271	0	0	254	0	0	1079	1029	253	1016	1017	258
Stage 1	-	-	-	-	-	-	758	758	-	258	258	-
Stage 2	-	-	-	-	-	-	321	271	-	758	759	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.336
Pot Cap-1 Maneuver	1292	-	-	1323	-	-	198	236	791	218	239	776
Stage 1	-	-	-	-	-	-	402	418	-	751	698	-
Stage 2	-	-	-	-	-	-	695	689	-	402	418	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1292	-	-	1323	-	-	141	190	791	185	192	776
Mov Cap-2 Maneuver	-	-	-	-	-	-	141	190	-	185	192	-
Stage 1	-	-	-	-	-	-	324	336	-	605	698	-
Stage 2	-	-	-	-	-	-	584	689	-	324	336	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.2	0	0	11.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1292	-	-	1323	-	-	185	776
HCM Lane V/C Ratio	-	0.195	-	-	-	-	-	0.036	0.16
HCM Control Delay (s)	0	8.5	-	-	0	-	-	25.2	10.5
HCM Lane LOS	A	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	-	0.7	-	-	0	-	-	0.1	0.6

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	223	10	16	83	25	165
Future Vol, veh/h	223	10	16	83	25	165
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	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	0	0	0	0	8
Mvmt Flow	282	13	20	105	32	209

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	178	32	32	0	-	0
Stage 1	32	-	-	-	-	-
Stage 2	146	-	-	-	-	-
Critical Hdwy	6.42	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	812	1048	1593	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	801	1048	1593	-	-	-
Mov Cap-2 Maneuver	801	-	-	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	870	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1593	-	809	-	-
HCM Lane V/C Ratio	0.013	-	0.365	-	-
HCM Control Delay (s)	7.3	0	12	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.7	-	-

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	500	388	23	112	119	138
v/c Ratio	0.44	0.44	0.08	0.15	0.31	0.10
Control Delay	15.3	14.8	23.9	13.0	22.1	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	14.8	23.9	13.0	22.1	10.6
Queue Length 50th (ft)	55	40	6	8	29	10
Queue Length 95th (ft)	127	98	29	30	88	38
Internal Link Dist (ft)	112	93		1057		1152
Turn Bay Length (ft)			94		102	
Base Capacity (vph)	2238	1733	820	2223	804	2371
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.22	0.03	0.05	0.15	0.06

Intersection Summary

Description: Changed from City controller phase to E-W NEMA Phase to get 2010 HCM Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	435	18	80	207	66	21	61	41	108	119	6
Future Volume (veh/h)	2	435	18	80	207	66	21	61	41	108	119	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1878	1900	1900	1889	1900	1900	1878	1900	1863	1900	1900
Adj Flow Rate, veh/h	2	478	20	88	227	73	23	67	45	119	131	7
Adj No. of Lanes	0	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	0	0	0	0	2	2	2	0	0
Cap, veh/h	91	1418	59	316	748	248	41	311	192	163	752	40
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.02	0.15	0.15	0.09	0.22	0.22
Sat Flow, veh/h	2	3415	142	448	1800	597	1810	2120	1307	1774	3487	185
Grp Volume(v), veh/h	263	0	237	191	0	197	23	55	57	119	67	71
Grp Sat Flow(s),veh/h/ln	1876	0	1683	1232	0	1613	1810	1784	1644	1774	1805	1867
Q Serve(g_s), s	0.0	0.0	3.9	0.8	0.0	3.3	0.5	1.1	1.2	2.6	1.2	1.2
Cycle Q Clear(g_c), s	3.9	0.0	3.9	4.7	0.0	3.3	0.5	1.1	1.2	2.6	1.2	1.2
Prop In Lane	0.01		0.08	0.46		0.37	1.00		0.80	1.00		0.10
Lane Grp Cap(c), veh/h	869	0	699	642	0	670	41	262	241	163	390	403
V/C Ratio(X)	0.30	0.00	0.34	0.30	0.00	0.29	0.56	0.21	0.23	0.73	0.17	0.18
Avail Cap(c_a), veh/h	1480	0	1250	1054	0	1198	896	1324	1220	878	1340	1386
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.0	0.0	8.0	7.9	0.0	7.9	19.6	15.2	15.2	17.9	12.9	12.9
Incr Delay (d2), s/veh	0.4	0.0	0.6	0.5	0.0	0.5	16.3	0.9	1.1	8.7	0.4	0.4
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	2.1	0.0	1.9	1.6	0.0	1.5	0.4	0.6	0.6	1.7	0.6	0.7
LnGrp Delay(d),s/veh	8.5	0.0	8.6	8.4	0.0	8.4	35.8	16.0	16.3	26.6	13.4	13.4
LnGrp LOS	A		A	A		A	D	B	B	C	B	B
Approach Vol, veh/h		500			388			135			257	
Approach Delay, s/veh		8.5			8.4			19.5			19.5	
Approach LOS		A			A			B			B	

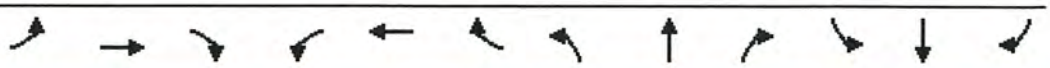
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		21.8	4.9	13.7		21.8	7.7	10.9
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		30.0	20.0	30.0		30.0	20.0	30.0
Max Q Clear Time (g_c+I1), s		5.9	2.5	3.2		6.7	4.6	3.2
Green Ext Time (p_c), s		10.5	0.0	2.6		10.3	0.4	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	11.9
HCM 2010 LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	20	370	191	46	230	86	75	42	126	7
v/c Ratio	0.09	0.43	0.23	0.18	0.13	0.29	0.16	0.17	0.34	0.02
Control Delay	35.2	24.1	4.9	34.0	17.0	33.2	23.2	34.1	30.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	24.1	4.9	34.0	17.0	33.2	23.2	34.1	30.3	0.0
Queue Length 50th (ft)	8	139	0	19	27	35	25	17	50	0
Queue Length 95th (ft)	32	291	49	56	80	89	64	53	109	0
Internal Link Dist (ft)		1207			123		264		1057	
Turn Bay Length (ft)	134			61		70		100		
Base Capacity (vph)	803	1014	951	642	1853	642	928	642	947	864
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.36	0.20	0.07	0.12	0.13	0.08	0.07	0.13	0.01

Intersection Summary

Description: Changed to NEMA phasing, adjust min errors to allow 2010 HCS report



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	337	174	42	198	11	78	57	11	38	115	6
Future Volume (veh/h)	18	337	174	42	198	11	78	57	11	38	115	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	370	191	46	218	12	86	63	12	42	126	7
Adj No. of Lanes	1	1	1	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	36	614	522	71	1193	65	115	224	43	66	223	189
Arrive On Green	0.02	0.32	0.32	0.04	0.34	0.34	0.06	0.14	0.14	0.04	0.12	0.12
Sat Flow, veh/h	1810	1900	1615	1810	3481	191	1810	1552	296	1810	1900	1611
Grp Volume(v), veh/h	20	370	191	46	112	118	86	0	75	42	126	7
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1805	1866	1810	0	1848	1810	1900	1611
Q Serve(g_s), s	0.5	7.2	4.0	1.1	1.9	1.9	2.0	0.0	1.6	1.0	2.7	0.2
Cycle Q Clear(g_c), s	0.5	7.2	4.0	1.1	1.9	1.9	2.0	0.0	1.6	1.0	2.7	0.2
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	36	614	522	71	619	640	115	0	267	66	223	189
V/C Ratio(X)	0.56	0.60	0.37	0.65	0.18	0.18	0.75	0.00	0.28	0.64	0.56	0.04
Avail Cap(c_a), veh/h	1032	1084	921	826	1030	1065	826	0	1181	826	1214	1029
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	12.5	11.4	20.8	10.1	10.1	20.2	0.0	16.7	20.8	18.3	17.1
Incr Delay (d2), s/veh	18.1	1.4	0.6	13.4	0.2	0.2	12.8	0.0	0.8	13.5	3.2	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	0.4	3.9	1.8	0.8	1.0	1.0	1.4	0.0	0.9	0.7	1.6	0.1
LnGrp Delay(d),s/veh	39.4	13.8	12.0	34.1	10.3	10.3	32.9	0.0	17.5	34.3	21.5	17.3
LnGrp LOS	D	B	B	C	B	B	C		B	C	C	B
Approach Vol, veh/h		581			276			161			175	
Approach Delay, s/veh		14.1			14.3			25.7			24.4	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	20.2	6.8	11.1	4.9	21.0	5.6	12.3
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	20.0	25.0	20.0	28.0	25.0	25.0	20.0	28.0
Max Q Clear Time (g_c+I1), s	3.1	9.2	4.0	4.7	2.5	3.9	3.0	3.6
Green Ext Time (p_c), s	0.1	5.0	0.3	1.5	0.0	5.7	0.1	1.5

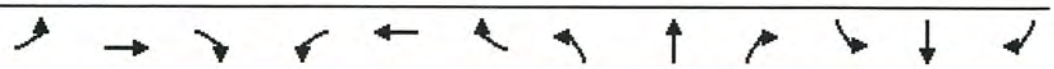
Intersection Summary	
HCM 2010 Ctrl Delay	17.2
HCM 2010 LOS	B

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	18	589	104	392	220	232
v/c Ratio	0.03	0.74	0.25	0.39	0.50	0.57
Control Delay	6.1	23.9	7.1	10.4	19.4	25.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	23.9	7.1	10.4	19.4	25.3
Queue Length 50th (ft)	2	170	13	59	52	70
Queue Length 95th (ft)	10	#403	37	190	111	135
Internal Link Dist (ft)		2316		2595	3508	1148
Turn Bay Length (ft)	150		150			
Base Capacity (vph)	866	798	711	1017	755	718
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.74	0.15	0.39	0.29	0.32

Intersection Summary

Description: Changed City controller phase to E-W NEMA phase

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	484	64	97	311	54	23	96	86	42	152	22
Future Volume (veh/h)	17	484	64	97	311	54	23	96	86	42	152	22
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1883	1900	1900	1884	1900	1900	1891	1900	1900	1887	1900
Adj Flow Rate, veh/h	18	520	69	104	334	58	25	103	92	45	163	24
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	0	1	1	1	1	1	1	1	1
Cap, veh/h	506	693	92	389	735	128	108	195	157	139	297	40
Arrive On Green	0.01	0.43	0.43	0.06	0.47	0.47	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1810	1629	216	1810	1564	272	104	897	719	218	1365	183
Grp Volume(v), veh/h	18	0	589	104	0	392	220	0	0	232	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1845	1810	0	1836	1719	0	0	1766	0	0
Q Serve(g_s), s	0.3	0.0	12.6	1.5	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	12.6	1.5	0.0	6.7	5.2	0.0	0.0	5.2	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.15	0.11		0.42	0.19		0.10
Lane Grp Cap(c), veh/h	506	0	785	389	0	863	460	0	0	477	0	0
V/C Ratio(X)	0.04	0.00	0.75	0.27	0.00	0.45	0.48	0.00	0.00	0.49	0.00	0.00
Avail Cap(c_a), veh/h	1197	0	945	999	0	941	950	0	0	968	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.7	0.0	11.4	8.6	0.0	8.4	16.4	0.0	0.0	16.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	3.2	0.4	0.0	0.5	1.1	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	7.1	0.7	0.0	3.5	2.6	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	7.7	0.0	14.6	8.9	0.0	8.9	17.5	0.0	0.0	17.5	0.0	0.0
LnGrp LOS	A		B	A		A	B			B		
Approach Vol, veh/h		607			496			220			232	
Approach Delay, s/veh		14.4			8.9			17.5			17.5	
Approach LOS		B			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.7	24.9		15.2	4.6	27.0		15.2
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	18.5	24.0		24.0	18.5	24.0		24.0
Max Q Clear Time (g_c+I1), s	3.5	14.6		7.2	2.3	8.7		7.2
Green Ext Time (p_c), s	0.2	5.3		3.5	0.0	7.4		3.5

Intersection Summary	
HCM 2010 Ctrl Delay	13.5
HCM 2010 LOS	B

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	12	401	28	217	170	153	6
v/c Ratio	0.04	0.43	0.09	0.21	0.40	0.31	0.01
Control Delay	22.7	12.8	22.0	9.0	19.0	17.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.7	12.8	22.0	9.0	19.0	17.9	0.0
Queue Length 50th (ft)	2	49	4	24	23	21	0
Queue Length 95th (ft)	18	187	30	96	106	96	0
Internal Link Dist (ft)		3473		1032	470	3508	
Turn Bay Length (ft)	61		75				135
Base Capacity (vph)	695	1171	1162	1533	641	747	747
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.34	0.02	0.14	0.27	0.20	0.01

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	256	125	27	179	28	54	91	16	13	132	6
Future Volume (veh/h)	11	256	125	27	179	28	54	91	16	13	132	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1827	1884	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	12	269	132	28	188	29	57	96	17	14	139	6
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
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, %	0	0	0	4	1	1	0	0	0	0	0	0
Cap, veh/h	23	445	218	47	612	94	199	175	26	129	328	296
Arrive On Green	0.01	0.37	0.37	0.03	0.38	0.38	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1810	1205	591	1740	1594	246	328	955	142	85	1787	1615
Grp Volume(v), veh/h	12	0	401	28	0	217	170	0	0	153	0	6
Grp Sat Flow(s),veh/h/ln	1810	0	1796	1740	0	1840	1425	0	0	1872	0	1615
Q Serve(g_s), s	0.2	0.0	6.3	0.5	0.0	2.8	1.7	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.2	0.0	6.3	0.5	0.0	2.8	4.1	0.0	0.0	2.5	0.0	0.1
Prop In Lane	1.00		0.33	1.00		0.13	0.34		0.10	0.09		1.00
Lane Grp Cap(c), veh/h	23	0	663	47	0	706	401	0	0	457	0	296
V/C Ratio(X)	0.53	0.00	0.61	0.59	0.00	0.31	0.42	0.00	0.00	0.33	0.00	0.02
Avail Cap(c_a), veh/h	786	0	1300	1260	0	1279	849	0	0	968	0	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.9	0.0	8.8	16.6	0.0	7.4	13.1	0.0	0.0	12.5	0.0	11.5
Incr Delay (d2), s/veh	24.3	0.0	1.3	15.5	0.0	0.3	1.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	3.2	0.5	0.0	1.5	1.6	0.0	0.0	1.4	0.0	0.1
LnGrp Delay(d),s/veh	41.2	0.0	10.1	32.1	0.0	7.8	14.1	0.0	0.0	13.1	0.0	11.6
LnGrp LOS	D		B	C		A	B			B		B
Approach Vol, veh/h		413			245			170			159	
Approach Delay, s/veh		11.0			10.6			14.1			13.1	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.9	18.2		11.3	4.4	18.7		11.3
Change Period (Y+Rc), s	4.0	5.5		5.0	4.0	5.5		5.0
Max Green Setting (Gmax), s	25.0	25.0		16.0	15.0	24.0		16.0
Max Q Clear Time (g_c+I1), s	2.5	8.3		4.5	2.2	4.8		6.1
Green Ext Time (p_c), s	0.1	4.5		1.9	0.0	4.8		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	11.8
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	70	152	11	93	199
Future Vol, veh/h	21	70	152	11	93	199
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	91	91	91	91	91	91
Heavy Vehicles, %	0	2	1	0	1	1
Mvmt Flow	23	77	167	12	102	219

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	596	173	0	0	179	0
Stage 1	173	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.209	-
Pot Cap-1 Maneuver	470	871	-	-	1403	-
Stage 1	862	-	-	-	-	-
Stage 2	665	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	431	871	-	-	1403	-
Mov Cap-2 Maneuver	431	-	-	-	-	-
Stage 1	862	-	-	-	-	-
Stage 2	610	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	705	1403	-
HCM Lane V/C Ratio	-	-	0.142	0.073	-
HCM Control Delay (s)	-	-	10.9	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

12.5' 5'

Intersection	
Int Delay, s/veh	26

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	350	55	74	163	0	23	0	187	0	231	115
Future Vol, veh/h	0	350	55	74	163	0	23	0	187	0	231	115
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	3
Mvmt Flow	0	376	59	80	175	0	25	0	201	0	248	124

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	435	0	0	926	740	406	840	769	175
Stage 1	-	-	-	-	-	-	406	406	-	334	334	-
Stage 2	-	-	-	-	-	-	520	334	-	506	435	-
Critical Hdwy	-	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.327
Pot Cap-1 Maneuver	0	-	-	1135	-	0	251	347	649	287	334	866
Stage 1	0	-	-	-	-	0	626	601	-	684	647	-
Stage 2	0	-	-	-	-	0	543	647	-	552	584	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1135	-	-	67	320	649	186	308	866
Mov Cap-2 Maneuver	-	-	-	-	-	-	67	320	-	186	308	-
Stage 1	-	-	-	-	-	-	626	601	-	684	597	-
Stage 2	-	-	-	-	-	-	251	597	-	381	584	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.6	35.8	66.4
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	333	-	-	1135	-	392
HCM Lane V/C Ratio	0.678	-	-	0.07	-	0.949
HCM Control Delay (s)	35.8	-	-	8.4	0	66.4
HCM Lane LOS	E	-	-	A	A	F
HCM 95th %tile Q(veh)	4.7	-	-	0.2	-	10.6

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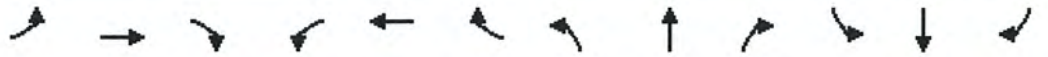


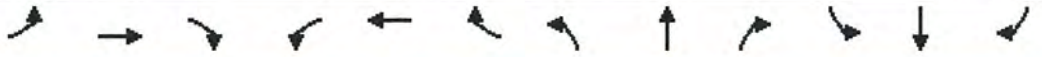
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	350	55	76	163	0	23	0	187	0	231	115
Future Volume (vph)	0	350	55	76	163	0	23	0	187	0	231	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.5		4.5		4.5	4.5
Lane Util. Factor		0.95			1.00		1.00		1.00		1.00	1.00
Frpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Frt		0.98			1.00		1.00		0.85		1.00	0.85
Flt Protected		1.00			0.98		0.95		1.00		1.00	1.00
Satd. Flow (prot)		3506			1870		1805		1615		1900	1568
Flt Permitted		1.00			0.50		0.95		1.00		1.00	1.00
Satd. Flow (perm)		3506			950		1805		1615		1900	1568
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	376	59	82	175	0	25	0	201	0	248	124
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	184	0	0	86
Lane Group Flow (vph)	0	425	0	0	257	0	25	0	17	0	248	38
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Turn Type		NA		Perm	NA		Prot		Prot		NA	Perm
Protected Phases		18 3 8			14 4!		15		15		6!	
Permitted Phases				14 4!								6
Actuated Green, G (s)		35.0			48.3		10.4		10.4		37.6	37.6
Effective Green, g (s)		35.0			48.3		10.4		10.4		37.6	37.6
Actuated g/C Ratio		0.29			0.40		0.09		0.09		0.31	0.31
Clearance Time (s)							4.5		4.5		4.5	4.5
Vehicle Extension (s)							3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1005			376		153		137		585	483
v/s Ratio Prot		0.12					c0.01		0.01		c0.13	
v/s Ratio Perm					c0.27							0.02
v/c Ratio		0.42			0.68		0.16		0.13		0.42	0.08
Uniform Delay, d1		35.3			30.5		51.8		51.6		33.6	29.9
Progression Factor		1.00			0.35		1.00		1.00		1.00	1.00
Incremental Delay, d2		0.1			3.6		0.5		0.4		2.2	0.3
Delay (s)		35.4			14.2		52.3		52.0		35.8	30.2
Level of Service		D			B		D		D		D	C
Approach Delay (s)		35.4			14.2			52.0			34.0	
Approach LOS		D			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	525	71	254	8	29	345	101	414
v/c Ratio	0.79	0.11	0.71	0.07	0.24	0.65	0.51	0.47
Control Delay	43.6	5.2	56.7	1.1	62.0	53.4	61.4	42.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	5.2	56.7	1.1	62.0	53.4	61.4	42.4
Queue Length 50th (ft)	333	0	177	0	21	127	71	147
Queue Length 95th (ft)	586	27	310	0	60	209	150	234
Internal Link Dist (ft)	49		154			343		461
Turn Bay Length (ft)				25	157		232	
Base Capacity (vph)	853	795	524	116	504	984	504	1011
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.09	0.48	0.07	0.06	0.35	0.20	0.41

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	285	64	15	213	7	26	301	10	91	373	0
Future Volume (veh/h)	187	285	64	15	213	7	26	301	10	91	373	0
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1882	1900	1900	1862	1900	1900	1900	1900
Adj Flow Rate, veh/h	208	317	71	17	237	0	29	334	11	101	414	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	0	1	1	0	0	1	1	0	0	0
Cap, veh/h	247	376	548	21	300	276	54	549	18	134	726	0
Arrive On Green	0.34	0.34	0.34	0.17	0.17	0.00	0.03	0.16	0.16	0.07	0.20	0.00
Sat Flow, veh/h	726	1107	1615	126	1751	1615	1810	3496	115	1810	3705	0
Grp Volume(v), veh/h	525	0	71	254	0	0	29	169	176	101	414	0
Grp Sat Flow(s),veh/h/ln	1834	0	1615	1876	0	1615	1810	1769	1842	1810	1805	0
Q Serve(g_s), s	20.5	0.0	2.4	10.1	0.0	0.0	1.2	6.9	6.9	4.2	8.0	0.0
Cycle Q Clear(g_c), s	20.5	0.0	2.4	10.1	0.0	0.0	1.2	6.9	6.9	4.2	8.0	0.0
Prop In Lane	0.40		1.00	0.07		1.00	1.00		0.06	1.00		0.00
Lane Grp Cap(c), veh/h	623	0	548	321	0	276	54	278	289	134	726	0
V/C Ratio(X)	0.84	0.00	0.13	0.79	0.00	0.00	0.53	0.61	0.61	0.75	0.57	0.00
Avail Cap(c_a), veh/h	1184	0	1042	727	0	625	701	685	713	701	1398	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.7	0.0	17.7	30.8	0.0	0.0	37.0	30.4	30.4	35.2	27.9	0.0
Incr Delay (d2), s/veh	3.2	0.0	0.1	4.4	0.0	0.0	7.9	1.6	1.5	8.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	0.0	1.1	5.6	0.0	0.0	0.7	3.5	3.7	2.4	4.0	0.0
LnGrp Delay(d),s/veh	26.9	0.0	17.8	35.2	0.0	0.0	45.0	32.0	32.0	43.4	28.2	0.0
LnGrp LOS	C		B	D			D	C	C	D	C	
Approach Vol, veh/h		596			254			374			515	
Approach Delay, s/veh		25.8			35.2			33.0			31.2	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.3	20.6		18.3	10.7	17.2		31.3
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	3.2	10.0		12.1	6.2	8.9		22.5
Green Ext Time (p_c), s	0.0	3.2		1.3	0.2	3.3		3.8

Intersection Summary	
HCM 2010 Ctrl Delay	30.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	285	64	15	213	7	26	301	10	91	373	0
Future Volume (vph)	187	285	64	15	213	7	26	301	10	91	373	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1698	1765	1593		1876	1615	1805	3574	1214	1805	3610	
Flt Permitted	0.95	0.00	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1698	0	1593		1812	1615	1805	3574	1214	1805	3610	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	208	317	71	17	237	8	29	334	11	101	414	0
RTOR Reduction (vph)	0	0	42	0	0	6	0	0	9	0	0	0
Lane Group Flow (vph)	187	338	29	0	254	2	29	334	2	101	414	0
Confl. Bikes (#/hr)			3									
Heavy Vehicles (%)	1%	2%	0%	0%	1%	0%	0%	1%	33%	0%	0%	0%
Turn Type	Prot	NA	custom	Perm	NA	Prot	Prot	NA	Perm	Prot	NA	
Protected Phases	3 16 15!	8 17 15			4!	4!	5!	2!		1!	6!	
Permitted Phases			8 17	4					2			
Actuated Green, G (s)	50.4	50.4	50.4		35.0	35.0	4.7	20.5	20.5	39.6	37.6	
Effective Green, g (s)	50.4	50.4	50.4		35.0	35.0	4.7	20.5	20.5	39.6	37.6	
Actuated g/C Ratio	0.41	0.41	0.41		0.29	0.29	0.04	0.17	0.17	0.32	0.31	
Clearance Time (s)					5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Vehicle Extension (s)					1.9	1.9	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	701	729	658		519	463	69	600	203	585	1112	
v/s Ratio Prot	0.11	c0.19				0.00	0.02	c0.09		0.06	c0.11	
v/s Ratio Perm			0.02		0.14				0.00			
v/c Ratio	0.27	0.46	0.04		0.49	0.00	0.42	0.56	0.01	0.17	0.37	
Uniform Delay, d1	23.6	26.0	21.4		36.1	31.1	57.3	46.6	42.3	29.5	33.0	
Progression Factor	0.32	0.37	0.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.3	0.0		0.3	0.0	4.1	1.1	0.0	0.6	1.0	
Delay (s)	7.8	9.9	0.0		36.4	31.1	61.4	47.7	42.3	30.1	33.9	
Level of Service	A	A	A		D	C	E	D	D	C	C	
Approach Delay (s)		8.1			36.2			48.6			33.2	
Approach LOS		A			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	47	720	108	552	65	142	77	162
v/c Ratio	0.12	0.90	0.37	0.62	0.18	0.42	0.20	0.49
Control Delay	10.4	42.1	13.3	22.7	19.4	26.5	19.6	32.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.4	42.1	13.3	22.7	19.4	26.5	19.6	32.4
Queue Length 50th (ft)	9	332	22	213	22	45	26	65
Queue Length 95th (ft)	26	#562	49	327	42	83	48	108
Internal Link Dist (ft)		2595		1832		2145		5230
Turn Bay Length (ft)	168		166		79		113	
Base Capacity (vph)	672	796	567	891	588	569	593	573
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.90	0.19	0.62	0.11	0.25	0.13	0.28

Intersection Summary

Description: Plan 1

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	513	48	84	387	44	51	57	54	60	94	32
Future Volume (veh/h)	37	513	48	84	387	44	51	57	54	60	94	32
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1883	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	47	658	62	108	496	56	65	73	69	77	121	41
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	0	1	1	0	0	0	0	0	0	0	0	0
Cap, veh/h	416	781	74	318	825	93	256	116	110	271	187	63
Arrive On Green	0.04	0.46	0.46	0.07	0.49	0.49	0.04	0.13	0.13	0.05	0.14	0.14
Sat Flow, veh/h	1810	1695	160	1810	1677	189	1810	900	850	1810	1358	460
Grp Volume(v), veh/h	47	0	720	108	0	552	65	0	142	77	0	162
Grp Sat Flow(s),veh/h/ln	1810	0	1855	1810	0	1867	1810	0	1750	1810	0	1819
Q Serve(g_s), s	0.9	0.0	22.3	2.0	0.0	13.9	2.0	0.0	5.0	2.4	0.0	5.5
Cycle Q Clear(g_c), s	0.9	0.0	22.3	2.0	0.0	13.9	2.0	0.0	5.0	2.4	0.0	5.5
Prop In Lane	1.00		0.09	1.00		0.10	1.00		0.49	1.00		0.25
Lane Grp Cap(c), veh/h	416	0	855	318	0	918	256	0	226	271	0	250
V/C Ratio(X)	0.11	0.00	0.84	0.34	0.00	0.60	0.25	0.00	0.63	0.28	0.00	0.65
Avail Cap(c_a), veh/h	909	0	855	755	0	918	733	0	592	733	0	615
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.6	0.0	15.5	12.2	0.0	11.9	23.3	0.0	26.9	23.0	0.0	26.6
Incr Delay (d2), s/veh	0.1	0.0	9.9	0.6	0.0	2.9	0.5	0.0	4.0	0.6	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	13.5	1.0	0.0	7.8	1.0	0.0	2.7	1.2	0.0	3.0
LnGrp Delay(d),s/veh	9.7	0.0	25.3	12.8	0.0	14.9	23.8	0.0	30.9	23.6	0.0	30.5
LnGrp LOS	A		C	B		B	C		C	C		C
Approach Vol, veh/h		767			660			207			239	
Approach Delay, s/veh		24.4			14.5			28.7			28.3	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	37.0	7.9	13.4	8.8	35.0	7.3	14.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	20.0	30.0	20.0	22.0	20.0	30.0	20.0	22.0
Max Q Clear Time (g_c+I1), s	2.9	15.9	4.4	7.0	4.0	24.3	4.0	7.5
Green Ext Time (p_c), s	0.1	10.6	0.1	2.0	0.2	4.8	0.1	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	21.9
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	26	0	60	0	0	0	33	46	0	0	98	30
Future Vol, veh/h	26	0	60	0	0	0	33	46	0	0	98	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	5	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	30	0	70	0	0	0	38	53	0	0	114	35

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	261	261	131	296	279	53	149	0	0	53	0	0
Stage 1	131	131	-	130	130	-	-	-	-	-	-	-
Stage 2	130	130	-	166	149	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	686	647	924	660	632	1020	1445	-	-	1566	-	-
Stage 1	865	792	-	878	792	-	-	-	-	-	-	-
Stage 2	866	792	-	841	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	672	630	924	598	615	1020	1445	-	-	1566	-	-
Mov Cap-2 Maneuver	672	630	-	598	615	-	-	-	-	-	-	-
Stage 1	842	792	-	854	771	-	-	-	-	-	-	-
Stage 2	843	771	-	777	778	-	-	-	-	-	-	-

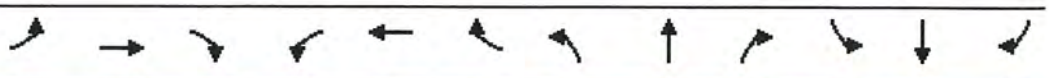
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	0	3.2	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1445	-	-	830	-	1566	-	-
HCM Lane V/C Ratio	0.027	-	-	0.12	-	-	-	-
HCM Control Delay (s)	7.6	0	-	9.9	0	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	-	0	-	-

2.5' 10'

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	104	640	214	473	160	369	66	388
v/c Ratio	0.50	0.61	0.67	0.71	0.60	0.41	0.39	0.63
Control Delay	54.9	31.6	53.2	37.2	53.3	27.4	55.7	43.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.9	31.6	53.2	37.2	53.3	27.4	55.7	43.1
Queue Length 50th (ft)	63	158	128	248	96	82	40	116
Queue Length 95th (ft)	136	276	246	470	190	137	97	187
Internal Link Dist (ft)		140		200		6700		1848
Turn Bay Length (ft)	108		112		131		184	
Base Capacity (vph)	456	1407	451	758	546	1370	546	1413
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.45	0.47	0.62	0.29	0.27	0.12	0.27

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	339	205	182	351	51	136	194	120	56	260	70
Future Volume (veh/h)	88	339	205	182	351	51	136	194	120	56	260	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1877	1900	1881	1884	1900	1900	1824	1900	1900	1885	1900
Adj Flow Rate, veh/h	104	399	241	214	413	60	160	228	141	66	306	82
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	2	2	1	1	1	0	3	3	0	1	1
Cap, veh/h	138	631	377	264	587	85	206	506	301	90	500	132
Arrive On Green	0.08	0.29	0.29	0.15	0.36	0.36	0.11	0.24	0.24	0.05	0.18	0.18
Sat Flow, veh/h	1810	2150	1283	1792	1609	234	1810	2093	1245	1810	2806	740
Grp Volume(v), veh/h	104	330	310	214	0	473	160	187	182	66	194	194
Grp Sat Flow(s),veh/h/ln	1810	1783	1650	1792	0	1842	1810	1733	1605	1810	1791	1755
Q Serve(g_s), s	4.2	12.0	12.2	8.7	0.0	16.4	6.4	6.9	7.2	2.7	7.4	7.7
Cycle Q Clear(g_c), s	4.2	12.0	12.2	8.7	0.0	16.4	6.4	6.9	7.2	2.7	7.4	7.7
Prop In Lane	1.00		0.78	1.00		0.13	1.00		0.78	1.00		0.42
Lane Grp Cap(c), veh/h	138	523	485	264	0	672	206	419	388	90	319	313
V/C Ratio(X)	0.76	0.63	0.64	0.81	0.00	0.70	0.78	0.45	0.47	0.73	0.61	0.62
Avail Cap(c_a), veh/h	605	953	882	599	0	985	726	927	858	726	958	938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	22.9	23.0	30.9	0.0	20.3	32.2	24.1	24.2	35.0	28.3	28.4
Incr Delay (d2), s/veh	8.1	1.3	1.4	5.9	0.0	1.4	6.3	0.6	0.7	10.8	1.6	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	6.1	5.7	4.7	0.0	8.5	3.6	3.3	3.3	1.6	3.8	3.9
LnGrp Delay(d),s/veh	42.0	24.2	24.4	36.8	0.0	21.7	38.5	24.7	24.9	45.8	29.9	30.1
LnGrp LOS	D	C	C	D		C	D	C	C	D	C	C
Approach Vol, veh/h		744			687			529			454	
Approach Delay, s/veh		26.8			26.4			28.9			32.3	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	23.6	15.5	26.5	14.0	18.8	10.2	31.8
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	40.0	30.0	40.0	25.0	40.0
Max Q Clear Time (g_c+I1), s	4.7	9.2	10.7	14.2	8.4	9.7	6.2	18.4
Green Ext Time (p_c), s	0.1	3.7	0.5	7.7	0.4	3.7	0.2	7.3

Intersection Summary	
HCM 2010 Ctrl Delay	28.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	207	398	0	0	395	11	0	0	0	17	0	209
Future Vol, veh/h	207	398	0	0	395	11	0	0	0	17	0	209
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	0	0	0	0	0	0	0	33	0	22
Mvmt Flow	262	504	0	0	500	14	0	0	0	22	0	265

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	514	0	0	504	0	0	1667	1542	505	1536	1535	507
Stage 1	-	-	-	-	-	-	1028	1028	-	507	507	-
Stage 2	-	-	-	-	-	-	639	514	-	1029	1028	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.43	6.5	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.43	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.43	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.797	4	3.498
Pot Cap-1 Maneuver	1057	-	-	1071	-	-	78	116	571	80	117	528
Stage 1	-	-	-	-	-	-	285	314	-	495	543	-
Stage 2	-	-	-	-	-	-	468	539	-	247	314	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1057	-	-	1070	-	-	31	87	570	65	88	528
Mov Cap-2 Maneuver	-	-	-	-	-	-	31	87	-	65	88	-
Stage 1	-	-	-	-	-	-	214	236	-	372	543	-
Stage 2	-	-	-	-	-	-	234	539	-	186	236	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0	0	23.6
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1057	-	-	1070	-	-	65	528
HCM Lane V/C Ratio	-	0.248	-	-	-	-	-	0.331	0.501
HCM Control Delay (s)	0	9.5	-	-	0	-	-	85.7	18.5
HCM Lane LOS	A	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	-	1	-	-	0	-	-	1.2	2.8
		25						30	70

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	282	17	23	54	98	350
Future Vol, veh/h	282	17	23	54	98	350
Conflicting Peds, #/hr	0	0	1	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	0	0	2	0	0
Mvmt Flow	310	19	25	59	108	385

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	219	109	109	0	-	0
Stage 1	109	-	-	-	-	-
Stage 2	110	-	-	-	-	-
Critical Hdwy	6.42	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	769	950	1494	-	-	-
Stage 1	916	-	-	-	-	-
Stage 2	915	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	754	949	1494	-	-	-
Mov Cap-2 Maneuver	754	-	-	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	899	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.2	2.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1494	-	763	-	-
HCM Lane V/C Ratio	0.017	-	0.431	-	-
HCM Control Delay (s)	7.5	0	13.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	2.2	-	-

2.5 55

YEAR 2025

LEVEL OF SERVICE CALCULATIONS

WITH PROJECT

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	147	7	36	517	132	21	95	67	69	60	4
Future Volume (veh/h)	4	147	7	36	517	132	21	95	67	69	60	4
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1868	1900	1900	1883	1900	1900	1877	1900	1759	1839	1900
Adj Flow Rate, veh/h	4	160	8	39	562	143	23	103	73	75	65	4
Adj No. of Lanes	0	2	0	0	2	0	1	2	0	1	2	0
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, %	1	1	1	0	0	0	0	0	0	8	2	2
Cap, veh/h	96	1480	73	133	1190	294	41	343	224	95	671	41
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.02	0.17	0.17	0.06	0.20	0.20
Sat Flow, veh/h	16	3336	164	88	2681	663	1810	2060	1345	1675	3345	204
Grp Volume(v), veh/h	90	0	82	400	0	344	23	88	88	75	34	35
Grp Sat Flow(s),veh/h/ln	1844	0	1671	1836	0	1596	1810	1783	1622	1675	1747	1803
Q Serve(g_s), s	0.0	0.0	1.2	0.0	0.0	6.4	0.5	1.8	2.0	1.9	0.7	0.7
Cycle Q Clear(g_c), s	1.2	0.0	1.2	6.3	0.0	6.4	0.5	1.8	2.0	1.9	0.7	0.7
Prop In Lane	0.04		0.10	0.10		0.42	1.00		0.83	1.00		0.11
Lane Grp Cap(c), veh/h	908	0	742	909	0	708	41	297	270	95	350	361
V/C Ratio(X)	0.10	0.00	0.11	0.44	0.00	0.49	0.57	0.30	0.33	0.79	0.10	0.10
Avail Cap(c_a), veh/h	1381	0	1193	1393	0	1140	862	1273	1159	798	1248	1288
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	0.0	6.8	8.2	0.0	8.3	20.3	15.4	15.4	19.6	13.7	13.7
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.7	0.0	1.1	16.5	1.2	1.5	18.7	0.3	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	0.6	0.0	0.6	3.4	0.0	3.0	0.4	1.0	1.0	1.3	0.3	0.4
LnGrp Delay(d),s/veh	6.9	0.0	7.0	9.0	0.0	9.4	36.8	16.5	16.9	38.2	13.9	13.9
LnGrp LOS	A		A	A		A	D	B	B	D	B	B
Approach Vol, veh/h		172			744			199			144	
Approach Delay, s/veh		6.9			9.2			19.0			26.6	
Approach LOS		A			A			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.6	4.9	13.4		23.6	6.4	12.0
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		30.0	20.0	30.0		30.0	20.0	30.0
Max Q Clear Time (g_c+I1), s		3.2	2.5	2.7		8.4	3.9	4.0
Green Ext Time (p_c), s		11.5	0.0	2.6		10.2	0.2	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	12.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	178	39	11	543	34	238	106	25	25	41	12
Future Volume (veh/h)	1	178	39	11	543	34	238	106	25	25	41	12
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1776	1900	1900	1858	1900	1900	1885	1900	1900	1810	1900
Adj Flow Rate, veh/h	1	196	43	12	597	37	262	116	27	27	45	13
Adj No. of Lanes	1	1	1	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	7	0	0	2	2	0	1	1	0	5	0
Cap, veh/h	4	547	498	22	1079	67	349	325	76	46	94	84
Arrive On Green	0.00	0.31	0.31	0.01	0.32	0.32	0.19	0.22	0.22	0.03	0.05	0.05
Sat Flow, veh/h	1810	1776	1615	1810	3378	209	1810	1480	344	1810	1810	1615
Grp Volume(v), veh/h	1	196	43	12	312	322	262	0	143	27	45	13
Grp Sat Flow(s),veh/h/ln	1810	1776	1615	1810	1766	1822	1810	0	1824	1810	1810	1615
Q Serve(g_s), s	0.0	4.0	0.9	0.3	6.7	6.7	6.3	0.0	3.1	0.7	1.1	0.4
Cycle Q Clear(g_c), s	0.0	4.0	0.9	0.3	6.7	6.7	6.3	0.0	3.1	0.7	1.1	0.4
Prop In Lane	1.00		1.00	1.00		0.11	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	4	547	498	22	564	582	349	0	401	46	94	84
V/C Ratio(X)	0.25	0.36	0.09	0.54	0.55	0.55	0.75	0.00	0.36	0.59	0.48	0.15
Avail Cap(c_a), veh/h	982	964	877	786	958	989	786	0	1109	786	1100	982
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	12.4	11.3	22.6	13.0	13.0	17.5	0.0	15.2	22.2	21.2	20.9
Incr Delay (d2), s/veh	42.7	0.6	0.1	25.6	1.2	1.2	4.6	0.0	0.8	15.9	5.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.0	0.4	0.3	3.4	3.5	3.6	0.0	1.6	0.5	0.7	0.2
LnGrp Delay(d),s/veh	65.7	13.0	11.4	48.2	14.2	14.1	22.1	0.0	16.0	38.1	26.5	22.1
LnGrp LOS	E	B	B	D	B	B	C		B	D	C	C
Approach Vol, veh/h		240			646			405			85	
Approach Delay, s/veh		12.9			14.8			19.9			29.5	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	20.2	12.9	8.4	4.1	20.7	5.2	16.1
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	20.6	25.0	20.0	28.0	25.0	25.0	20.0	28.0
Max Q Clear Time (g_c+I1), s	2.3	6.0	8.3	3.1	2.0	8.7	2.7	5.1
Green Ext Time (p_c), s	0.0	6.5	0.9	1.5	0.0	6.0	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	468	39	29	310	14	63	62	37	83	128	103
Future Volume (veh/h)	57	468	39	29	310	14	63	62	37	83	128	103
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1849	1900	1900	1820	1900	1900	1857	1900	1900	1886	1900
Adj Flow Rate, veh/h	65	532	44	33	352	16	72	70	42	94	145	117
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	3	3	0	4	4	2	2	2	1	1	1
Cap, veh/h	443	680	56	291	670	30	236	216	104	188	233	162
Arrive On Green	0.04	0.40	0.40	0.02	0.39	0.39	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1774	1685	139	1810	1728	79	459	722	349	331	781	544
Grp Volume(v), veh/h	65	0	576	33	0	368	184	0	0	356	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1824	1810	0	1806	1530	0	0	1656	0	0
Q Serve(g_s), s	1.1	0.0	14.0	0.6	0.0	8.0	0.0	0.0	0.0	5.2	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	14.0	0.6	0.0	8.0	4.3	0.0	0.0	9.5	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.04	0.39		0.23	0.26		0.33
Lane Grp Cap(c), veh/h	443	0	737	291	0	700	555	0	0	584	0	0
V/C Ratio(X)	0.15	0.00	0.78	0.11	0.00	0.53	0.33	0.00	0.00	0.61	0.00	0.00
Avail Cap(c_a), veh/h	1022	0	862	911	0	854	803	0	0	863	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.4	0.0	13.2	10.8	0.0	11.9	13.9	0.0	0.0	15.7	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	4.5	0.2	0.0	0.9	0.5	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	7.8	0.3	0.0	4.1	2.1	0.0	0.0	4.6	0.0	0.0
LnGrp Delay(d),s/veh	9.5	0.0	17.7	11.0	0.0	12.8	14.4	0.0	0.0	17.2	0.0	0.0
LnGrp LOS	A		B	B		B	B			B		
Approach Vol, veh/h		641			401			184			356	
Approach Delay, s/veh		16.9			12.7			14.4			17.2	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	25.5		20.2	5.9	24.7		20.2
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	18.5	24.0		24.0	18.5	24.0		24.0
Max Q Clear Time (g_c+I1), s	12.6	16.0		11.5	3.1	10.0		6.3
Green Ext Time (p_c), s	0.0	4.5		3.8	0.1	6.8		4.5

Intersection Summary	
HCM 2010 Ctrl Delay	15.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	172	35	42	434	46	125	160	30	32	66	8
Future Volume (veh/h)	7	172	35	42	434	46	125	160	30	32	66	8
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1860	1900	1900	1883	1900	1900	1880	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	195	40	48	493	52	142	182	34	36	75	9
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	2	2	0	1	1	1	1	1	0	0	0
Cap, veh/h	15	541	111	72	658	69	260	255	43	210	381	457
Arrive On Green	0.01	0.36	0.36	0.04	0.39	0.39	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1810	1498	307	1810	1675	177	530	902	150	376	1346	1615
Grp Volume(v), veh/h	8	0	235	48	0	545	358	0	0	111	0	9
Grp Sat Flow(s),veh/h/ln	1810	0	1805	1810	0	1852	1582	0	0	1722	0	1615
Q Serve(g_s), s	0.2	0.0	4.4	1.2	0.0	11.6	7.6	0.0	0.0	0.0	0.0	0.2
Cycle Q Clear(g_c), s	0.2	0.0	4.4	1.2	0.0	11.6	9.6	0.0	0.0	2.0	0.0	0.2
Prop In Lane	1.00		0.17	1.00		0.10	0.40		0.09	0.32		1.00
Lane Grp Cap(c), veh/h	15	0	652	72	0	727	557	0	0	591	0	457
V/C Ratio(X)	0.52	0.00	0.36	0.66	0.00	0.75	0.64	0.00	0.00	0.19	0.00	0.02
Avail Cap(c_a), veh/h	592	0	984	986	0	969	662	0	0	695	0	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	10.8	21.7	0.0	12.0	15.2	0.0	0.0	12.5	0.0	11.9
Incr Delay (d2), s/veh	34.3	0.0	0.5	13.9	0.0	2.9	2.1	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.2	0.9	0.0	6.5	4.5	0.0	0.0	1.1	0.0	0.1
LnGrp Delay(d),s/veh	56.9	0.0	11.2	35.7	0.0	14.8	17.3	0.0	0.0	12.7	0.0	11.9
LnGrp LOS	E		B	D		B	B			B		B
Approach Vol, veh/h		243			593			358			120	
Approach Delay, s/veh		12.7			16.5			17.3			12.7	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.8	22.1		18.0	4.4	23.5		18.0
Change Period (Y+Rc), s	4.0	5.5		5.0	4.0	5.5		5.0
Max Green Setting (Gmax), s	25.0	25.0		16.0	15.0	24.0		16.0
Max Q Clear Time (g_c+I1), s	13.6	6.4		4.0	2.2	13.6		11.6
Green Ext Time (p_c), s	0.1	6.1		3.1	0.0	4.4		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	66	449	1	0	229
Future Vol, veh/h	0	66	449	1	0	229
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	79	79	79	79	79	79
Heavy Vehicles, %	0	0	3	0	0	8
Mvmt Flow	0	84	568	1	0	290

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	569	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	525	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	525	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	525	-
HCM Lane V/C Ratio	-	-	0.159	-
HCM Control Delay (s)	-	-	13.2	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.6	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	67	383	1	38	191
Future Vol, veh/h	8	67	383	1	38	191
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	-	-	-	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	3	0	0	8
Mvmt Flow	10	85	485	1	48	242

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	823	485	0	0	486	0
Stage 1	485	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	346	586	-	-	1087	-
Stage 1	623	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	331	586	-	-	1087	-
Mov Cap-2 Maneuver	450	-	-	-	-	-
Stage 1	623	-	-	-	-	-
Stage 2	695	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	568	1087	-
HCM Lane V/C Ratio	-	-	0.167	0.044	-
HCM Control Delay (s)	-	-	12.6	8.5	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	25	359	1	12	187
Future Vol, veh/h	1	25	359	1	12	187
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	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	3	0	0	8
Mvmt Flow	1	32	454	1	15	237

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	722	455	0	0	456	0
Stage 1	455	-	-	-	-	-
Stage 2	267	-	-	-	-	-
Critical Hdwy	7.1	6.2	-	-	4.1	-
Critical Hdwy Stg 1	6.1	-	-	-	-	-
Critical Hdwy Stg 2	6.1	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	345	609	-	-	1115	-
Stage 1	589	-	-	-	-	-
Stage 2	743	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	341	609	-	-	1115	-
Mov Cap-2 Maneuver	341	-	-	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	733	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	591	1115	-
HCM Lane V/C Ratio	-	-	0.056	0.014	-
HCM Control Delay (s)	-	-	11.5	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	113	246	14	55	133
Future Vol, veh/h	11	113	246	14	55	133
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	79	79	79	79	79	79
Heavy Vehicles, %	0	0	3	0	3	5
Mvmt Flow	14	143	311	18	70	168

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	628	320	0	0	329	0
Stage 1	320	-	-	-	-	-
Stage 2	308	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.227	-
Pot Cap-1 Maneuver	450	725	-	-	1225	-
Stage 1	741	-	-	-	-	-
Stage 2	750	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	422	725	-	-	1225	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	703	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	2.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	682	1225	-
HCM Lane V/C Ratio	-	-	0.23	0.057	-
HCM Control Delay (s)	-	-	11.9	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0.2	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	62	119	1	0	5
Future Vol, veh/h	7	62	119	1	0	5
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	79	79	79	79	79	79
Heavy Vehicles, %	0	3	0	0	0	0
Mvmt Flow	9	78	151	1	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	152	0	-	0	247	151
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	96	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1441	-	-	-	746	901
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	933	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1441	-	-	-	741	901
Mov Cap-2 Maneuver	-	-	-	-	741	-
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	926	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1441	-	-	-	901
HCM Lane V/C Ratio	0.006	-	-	-	0.007
HCM Control Delay (s)	7.5	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

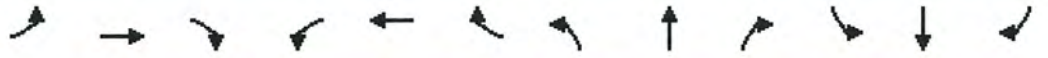
Intersection	
Int Delay, s/veh	11.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	251	47	54	218	0	32	0	256	0	157	35
Future Vol, veh/h	0	251	47	54	218	0	32	0	256	0	157	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	4	0	0	5	0	0	0	2	2	6	0
Mvmt Flow	0	285	53	61	248	0	36	0	291	0	178	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	339	0	0	792	682	312	827	709	248
Stage 1	-	-	-	-	-	-	312	312	-	370	370	-
Stage 2	-	-	-	-	-	-	480	370	-	457	339	-
Critical Hdwy	-	-	-	4.1	-	-	7.1	6.5	6.22	7.12	6.56	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.56	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.318	3.518	4.054	3.3
Pot Cap-1 Maneuver	0	-	-	1231	-	0	309	375	728	291	354	796
Stage 1	0	-	-	-	-	0	703	661	-	650	613	-
Stage 2	0	-	-	-	-	0	571	624	-	583	633	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1231	-	-	163	354	728	167	334	796
Mov Cap-2 Maneuver	-	-	-	-	-	-	163	354	-	167	334	-
Stage 1	-	-	-	-	-	-	703	661	-	650	578	-
Stage 2	-	-	-	-	-	-	354	588	-	350	633	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	22.5	27.3
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	526	-	-	1231	-	374
HCM Lane V/C Ratio	0.622	-	-	0.05	-	0.583
HCM Control Delay (s)	22.5	-	-	8.1	0	27.3
HCM Lane LOS	C	-	-	A	A	D
HCM 95th %tile Q(veh)	4.2	-	-	0.2	-	3.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	251	47	54	218	0	32	0	256	0	157	35
Future Volume (vph)	0	251	47	54	218	0	32	0	256	0	157	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.5		4.5		4.5	4.5
Lane Util. Factor		0.95			1.00		1.00		1.00		1.00	1.00
Frpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Frt		0.98			1.00		1.00		0.85		1.00	0.85
Flt Protected		1.00			0.99		0.95		1.00		1.00	1.00
Satd. Flow (prot)		3495			1881		1805		1615		1900	1568
Flt Permitted		1.00			0.72		0.95		1.00		1.00	1.00
Satd. Flow (perm)		3495			1368		1805		1615		1900	1568
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	270	51	58	234	0	34	0	275	0	169	38
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	249	0	0	26
Lane Group Flow (vph)	0	308	0	0	292	0	34	0	26	0	169	12
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Turn Type		NA		Perm	NA		Prot		Prot		NA	Perm
Protected Phases		18 3 8			14 4!		15		15		6!	
Permitted Phases				14 4!								6
Actuated Green, G (s)		35.0			46.6		11.7		11.7		37.3	37.3
Effective Green, g (s)		35.0			46.6		11.7		11.7		37.3	37.3
Actuated g/C Ratio		0.29			0.38		0.10		0.10		0.31	0.31
Clearance Time (s)							4.5		4.5		4.5	4.5
Vehicle Extension (s)							3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1002			522		173		154		580	479
v/s Ratio Prot		0.09					c0.02		0.02		c0.09	
v/s Ratio Perm					c0.21							0.01
v/c Ratio		0.31			0.56		0.20		0.17		0.29	0.02
Uniform Delay, d1		34.0			29.6		50.8		50.7		32.3	29.6
Progression Factor		1.00			0.16		1.00		1.00		1.00	1.00
Incremental Delay, d2		0.1			0.7		0.6		0.5		1.3	0.1
Delay (s)		34.1			5.3		51.4		51.2		33.5	29.7
Level of Service		C			A		D		D		C	C
Approach Delay (s)		34.1			5.3			51.2			32.8	
Approach LOS		C			A			D			C	

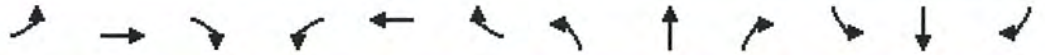
Intersection Summary			
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	237	243	27	6	212	76	60	503	20	44	124	1
Future Volume (veh/h)	237	243	27	6	212	76	60	503	20	44	124	1
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1864	1900	1900	1882	1900	1900	1827	1900
Adj Flow Rate, veh/h	279	286	32	7	249	0	71	592	24	52	146	1
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	1	1	0	2	2	0	0	1	1	0	4	4
Cap, veh/h	320	328	562	9	305	272	94	754	31	73	721	5
Arrive On Green	0.35	0.35	0.35	0.17	0.17	0.00	0.05	0.22	0.22	0.04	0.20	0.20
Sat Flow, veh/h	907	929	1593	51	1810	1615	1810	3503	142	1810	3535	24
Grp Volume(v), veh/h	565	0	32	256	0	0	71	302	314	52	72	75
Grp Sat Flow(s),veh/h/ln	1836	0	1593	1861	0	1615	1810	1788	1857	1810	1736	1823
Q Serve(g_s), s	25.8	0.0	1.2	11.9	0.0	0.0	3.5	14.3	14.3	2.5	3.1	3.1
Cycle Q Clear(g_c), s	25.8	0.0	1.2	11.9	0.0	0.0	3.5	14.3	14.3	2.5	3.1	3.1
Prop In Lane	0.49		1.00	0.03		1.00	1.00		0.08	1.00		0.01
Lane Grp Cap(c), veh/h	648	0	562	313	0	272	94	385	400	73	354	372
V/C Ratio(X)	0.87	0.00	0.06	0.82	0.00	0.00	0.75	0.78	0.79	0.71	0.20	0.20
Avail Cap(c_a), veh/h	1025	0	889	623	0	541	606	599	622	606	581	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	0.0	19.2	35.9	0.0	0.0	41.9	33.2	33.2	42.5	29.6	29.6
Incr Delay (d2), s/veh	5.2	0.0	0.0	5.2	0.0	0.0	11.5	2.8	2.7	11.9	0.1	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	14.0	0.0	0.5	6.6	0.0	0.0	2.0	7.3	7.6	1.5	1.5	1.6
LnGrp Delay(d),s/veh	32.3	0.0	19.2	41.2	0.0	0.0	53.4	35.9	35.9	54.3	29.7	29.7
LnGrp LOS	C		B	D			D	D	D	D	C	C
Approach Vol, veh/h		597			256			687			199	
Approach Delay, s/veh		31.6			41.2			37.7			36.1	
Approach LOS		C			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.7	23.3		20.1	8.6	24.3		36.6
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	5.5	5.1		13.9	4.5	16.3		27.8
Green Ext Time (p_c), s	0.1	3.5		1.2	0.1	3.0		3.8

Intersection Summary	
HCM 2010 Ctrl Delay	35.9
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	237	243	27	6	212	76	60	503	20	44	124	1
Future Volume (vph)	237	243	27	6	212	76	60	503	20	44	124	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1698	1763	1593		1879	1615	1805	3574	1214	1805	3606	
Flt Permitted	0.95	0.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1698	0	1593		1861	1615	1805	3574	1214	1805	3606	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	263	270	30	7	236	84	67	559	22	49	138	1
RTOR Reduction (vph)	0	0	17	0	0	60	0	0	18	0	0	0
Lane Group Flow (vph)	237	296	13	0	243	24	67	559	4	49	139	0
Confl. Bikes (#/hr)			3									
Heavy Vehicles (%)	1%	2%	0%	0%	1%	0%	0%	1%	33%	0%	0%	0%
Turn Type	Prot	NA	custom	Perm	NA	Prot	Prot	NA	Perm	Prot	NA	
Protected Phases	3 16 15!	8 17 15			4!	4!	5!	2!		1!	6!	
Permitted Phases			8 17	4					2			
Actuated Green, G (s)	51.7	51.7	51.7		35.0	35.0	6.4	19.5	19.5	38.3	37.3	
Effective Green, g (s)	51.7	51.7	51.7		35.0	35.0	6.4	19.5	19.5	38.3	37.3	
Actuated g/C Ratio	0.42	0.42	0.42		0.29	0.29	0.05	0.16	0.16	0.31	0.31	
Clearance Time (s)					5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Vehicle Extension (s)					1.9	1.9	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	719	747	675		533	463	94	571	194	566	1102	
v/s Ratio Prot	0.14	c0.17				0.01	0.04	c0.16		0.03	c0.04	
v/s Ratio Perm			0.01		c0.13				0.00			
v/c Ratio	0.33	0.40	0.02		0.46	0.05	0.71	0.98	0.02	0.09	0.13	
Uniform Delay, d1	23.5	24.3	20.4		35.7	31.5	56.9	51.0	43.2	29.5	30.6	
Progression Factor	0.49	0.51	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.2	0.0		0.2	0.0	22.4	31.9	0.0	0.3	0.2	
Delay (s)	11.9	12.8	20.4		35.9	31.5	79.3	83.0	43.2	29.8	30.8	
Level of Service	B	B	C		D	C	E	F	D	C	C	
Approach Delay (s)		12.8			34.8			81.3			30.6	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	44.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	395	8	63	456	59	63	96	168	202	48	35
Future Volume (veh/h)	17	395	8	63	456	59	63	96	168	202	48	35
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.99	0.94		0.98	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1846	1900	1845	1839	1900	1900	1864	1900	1863	1900	1900
Adj Flow Rate, veh/h	20	476	10	76	549	71	76	116	202	243	58	42
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	0	3	3	3	3	3	0	0	0	2	0	0
Cap, veh/h	230	771	16	338	726	94	433	136	237	333	305	221
Arrive On Green	0.01	0.43	0.43	0.04	0.46	0.46	0.05	0.23	0.23	0.12	0.30	0.30
Sat Flow, veh/h	1810	1799	38	1757	1594	206	1810	602	1047	1774	1001	725
Grp Volume(v), veh/h	20	0	486	76	0	620	76	0	318	243	0	100
Grp Sat Flow(s),veh/h/ln	1810	0	1837	1757	0	1800	1810	0	1649	1774	0	1726
Q Serve(g_s), s	0.7	0.0	21.6	2.5	0.0	30.0	3.3	0.0	19.4	10.5	0.0	4.5
Cycle Q Clear(g_c), s	0.7	0.0	21.6	2.5	0.0	30.0	3.3	0.0	19.4	10.5	0.0	4.5
Prop In Lane	1.00		0.02	1.00		0.11	1.00		0.64	1.00		0.42
Lane Grp Cap(c), veh/h	230	0	787	338	0	820	433	0	374	333	0	525
V/C Ratio(X)	0.09	0.00	0.62	0.22	0.00	0.76	0.18	0.00	0.85	0.73	0.00	0.19
Avail Cap(c_a), veh/h	552	0	787	771	0	820	694	0	503	535	0	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.2	0.0	23.3	17.8	0.0	23.7	29.0	0.0	38.9	26.9	0.0	27.0
Incr Delay (d2), s/veh	0.2	0.0	3.6	0.3	0.0	6.4	0.2	0.0	13.8	3.1	0.0	0.4
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	0.3	0.0	11.7	1.2	0.0	16.3	1.7	0.0	10.3	5.4	0.0	2.2
LnGrp Delay(d),s/veh	20.3	0.0	26.9	18.2	0.0	30.2	29.1	0.0	52.7	30.0	0.0	27.3
LnGrp LOS	C		C	B		C	C		D	C		C
Approach Vol, veh/h		506			696			394			343	
Approach Delay, s/veh		26.7			28.8			48.1			29.2	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	52.8	17.5	28.8	8.7	50.0	9.4	37.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	20.0	30.0	25.0	32.0	30.0	45.0	20.0	25.0
Max Q Clear Time (g_c+I1), s	2.7	32.0	12.5	21.4	4.5	23.6	5.3	6.5
Green Ext Time (p_c), s	0.0	0.0	0.5	2.4	0.2	12.8	0.1	4.4

Intersection Summary	
HCM 2010 Ctrl Delay	32.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	395	8	63	456	59	63	96	168	202	48	35
Future Volume (veh/h)	17	395	8	63	456	59	63	96	168	202	48	35
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.99	0.93		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1846	1900	1845	1839	1900	1900	1900	1845	1863	1900	1900
Adj Flow Rate, veh/h	20	476	10	76	549	71	76	116	202	243	58	42
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	0	3	3	3	3	3	0	0	3	2	0	0
Cap, veh/h	268	821	17	375	769	99	381	343	275	439	263	191
Arrive On Green	0.01	0.46	0.46	0.04	0.48	0.48	0.05	0.18	0.18	0.13	0.26	0.26
Sat Flow, veh/h	1810	1799	38	1757	1594	206	1810	1900	1520	1774	997	722
Grp Volume(v), veh/h	20	0	486	76	0	620	76	116	202	243	0	100
Grp Sat Flow(s),veh/h/ln	1810	0	1837	1757	0	1800	1810	1900	1520	1774	0	1720
Q Serve(g_s), s	0.6	0.0	19.3	2.2	0.0	26.8	3.3	5.3	12.4	10.5	0.0	4.5
Cycle Q Clear(g_c), s	0.6	0.0	19.3	2.2	0.0	26.8	3.3	5.3	12.4	10.5	0.0	4.5
Prop In Lane	1.00		0.02	1.00		0.11	1.00		1.00	1.00		0.42
Lane Grp Cap(c), veh/h	268	0	838	375	0	868	381	343	275	439	0	454
V/C Ratio(X)	0.07	0.00	0.58	0.20	0.00	0.71	0.20	0.34	0.74	0.55	0.00	0.22
Avail Cap(c_a), veh/h	611	0	838	841	0	868	660	616	493	655	0	454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.1	0.0	19.9	15.2	0.0	20.2	30.6	35.3	38.2	25.8	0.0	28.4
Incr Delay (d2), s/veh	0.1	0.0	2.9	0.3	0.0	5.0	0.3	1.2	7.9	1.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	10.4	1.1	0.0	14.5	1.7	2.9	5.8	5.3	0.0	2.2
LnGrp Delay(d),s/veh	17.2	0.0	22.8	15.4	0.0	25.2	30.9	36.5	46.1	26.9	0.0	28.9
LnGrp LOS	B		C	B		C	C	D	D	C		C
Approach Vol, veh/h		506			696			394			343	
Approach Delay, s/veh		22.6			24.1			40.3			27.5	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	52.6	17.5	22.8	8.4	50.0	9.3	31.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	20.6	30.0	25.0	32.0	30.0	45.0	20.0	25.0
Max Q Clear Time (g_c+I1), s	12.6	28.8	12.5	14.4	4.2	21.3	5.3	6.5
Green Ext Time (p_c), s	0.0	1.0	0.5	3.1	0.2	13.7	0.1	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	27.6
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	0	0	246	116	4
Future Vol, veh/h	19	0	0	246	116	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, %	0	0	0	4	0	0
Mvmt Flow	21	0	0	267	126	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	395	128	130	0	-	0
Stage 1	128	-	-	-	-	-
Stage 2	267	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	614	927	1468	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	614	927	1468	-	-	-
Mov Cap-2 Maneuver	614	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1468	-	614	-	-
HCM Lane V/C Ratio	-	-	0.034	-	-
HCM Control Delay (s)	0	-	11.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	3	1	217	106	10
Future Vol, veh/h	29	3	1	217	106	10
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, %	0	0	0	4	0	0
Mvmt Flow	32	3	1	236	115	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	359	121	126	0	-	0
Stage 1	121	-	-	-	-	-
Stage 2	238	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	644	936	1473	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	806	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	643	936	1473	-	-	-
Mov Cap-2 Maneuver	643	-	-	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	805	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1473	-	662	-	-
HCM Lane V/C Ratio	0.001	-	0.053	-	-
HCM Control Delay (s)	7.4	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	3	1	183	98	10
Future Vol, veh/h	35	3	1	183	98	10
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, %	0	0	0	4	0	0
Mvmt Flow	38	3	1	199	107	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	313	112	117	0	-	0
Stage 1	112	-	-	-	-	-
Stage 2	201	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	684	947	1484	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	683	947	1484	-	-	-
Mov Cap-2 Maneuver	683	-	-	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	837	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1484	-	698	-	-
HCM Lane V/C Ratio	0.001	-	0.059	-	-
HCM Control Delay (s)	7.4	0	10.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	12	4	172	98	4
Future Vol, veh/h	12	12	4	172	98	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, %	0	0	0	4	0	0
Mvmt Flow	13	13	4	187	107	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	305	109	111	0	-	0
Stage 1	109	-	-	-	-	-
Stage 2	196	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	691	950	1492	-	-	-
Stage 1	921	-	-	-	-	-
Stage 2	842	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	689	950	1492	-	-	-
Mov Cap-2 Maneuver	689	-	-	-	-	-
Stage 1	921	-	-	-	-	-
Stage 2	839	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1492	-	799	-	-
HCM Lane V/C Ratio	0.003	-	0.033	-	-
HCM Control Delay (s)	7.4	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	91	0	15	0	0	0	65	82	0	0	32	79
Future Vol, veh/h	91	0	15	0	0	0	65	82	0	0	32	79
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	4	0	0	0	0	0	2	0	0	0	0	0
Mvmt Flow	111	0	18	0	0	0	79	100	0	0	39	96

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	346	346	87	355	394	100	135	0	0	100	0	0
Stage 1	87	87	-	259	259	-	-	-	-	-	-	-
Stage 2	259	259	-	96	135	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4	3.3	3.5	4	3.3	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	605	580	977	604	546	961	1449	-	-	1505	-	-
Stage 1	916	827	-	750	697	-	-	-	-	-	-	-
Stage 2	741	697	-	916	789	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	578	546	977	566	514	961	1449	-	-	1505	-	-
Mov Cap-2 Maneuver	578	546	-	566	514	-	-	-	-	-	-	-
Stage 1	863	827	-	707	657	-	-	-	-	-	-	-
Stage 2	698	657	-	899	789	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.4	0	3.4	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1449	-	-	613	-	1505	-	-
HCM Lane V/C Ratio	0.055	-	-	0.211	-	-	-	-
HCM Control Delay (s)	7.6	0	-	12.4	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.8	-	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	289	71	72	234	85	145	323	158	28	98	82
Future Volume (veh/h)	154	289	71	72	234	85	145	323	158	28	98	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1838	1900	1810	1849	1900	1845	1857	1900	1900	1794	1900
Adj Flow Rate, veh/h	166	311	76	77	252	91	156	347	170	30	105	88
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	3	3	5	3	3	3	3	3	0	5	5
Cap, veh/h	217	963	232	104	367	132	204	533	257	59	270	208
Arrive On Green	0.12	0.34	0.34	0.06	0.28	0.28	0.12	0.23	0.23	0.03	0.15	0.15
Sat Flow, veh/h	1774	2792	672	1723	1298	469	1757	2312	1112	1810	1837	1412
Grp Volume(v), veh/h	166	193	194	77	0	343	156	263	254	30	97	96
Grp Sat Flow(s),veh/h/ln	1774	1746	1719	1723	0	1767	1757	1764	1660	1810	1704	1545
Q Serve(g_s), s	5.5	4.9	5.0	2.7	0.0	10.4	5.2	8.1	8.4	1.0	3.1	3.4
Cycle Q Clear(g_c), s	5.5	4.9	5.0	2.7	0.0	10.4	5.2	8.1	8.4	1.0	3.1	3.4
Prop In Lane	1.00		0.39	1.00		0.27	1.00		0.67	1.00		0.91
Lane Grp Cap(c), veh/h	217	602	593	104	0	499	204	407	383	59	251	227
V/C Ratio(X)	0.77	0.32	0.33	0.74	0.00	0.69	0.76	0.65	0.66	0.51	0.39	0.42
Avail Cap(c_a), veh/h	736	1158	1140	715	0	1172	874	1170	1101	900	1131	1025
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	14.6	14.6	27.9	0.0	19.2	25.8	21.0	21.1	28.7	23.2	23.4
Incr Delay (d2), s/veh	5.6	0.3	0.3	10.0	0.0	1.7	5.8	1.3	1.5	6.5	0.8	1.1
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	3.0	2.4	2.4	1.6	0.0	5.3	2.8	4.1	4.0	0.6	1.5	1.5
LnGrp Delay(d),s/veh	31.2	14.9	14.9	37.9	0.0	20.9	31.6	22.3	22.5	35.2	24.1	24.5
LnGrp LOS	C	B	B	D		C	C	C	C	D	C	C
Approach Vol, veh/h		553			420			673			223	
Approach Delay, s/veh		19.8			24.0			24.5			25.7	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	19.4	8.1	25.3	12.5	14.4	11.9	21.5
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	40.0	30.0	40.0	25.0	40.0
Max Q Clear Time (g_c+I1), s	3.0	10.4	4.7	7.0	7.2	5.4	7.5	12.4
Green Ext Time (p_c), s	0.0	3.4	0.2	4.8	0.4	3.5	0.4	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	23.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	244	245	2	0	233	23	0	0	0	6	0	115
Future Vol, veh/h	244	245	2	0	233	23	0	0	0	6	0	115
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	-	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	0	5	0	0	0	0	0	0	4
Mvmt Flow	271	272	2	0	259	26	0	0	0	7	0	128

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	284	0	0	274	0	0	1152	1100	273	1088	1089	272
Stage 1	-	-	-	-	-	-	816	816	-	272	272	-
Stage 2	-	-	-	-	-	-	336	284	-	816	817	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.336
Pot Cap-1 Maneuver	1278	-	-	1301	-	-	176	214	771	195	217	762
Stage 1	-	-	-	-	-	-	374	393	-	738	688	-
Stage 2	-	-	-	-	-	-	682	680	-	374	393	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1278	-	-	1301	-	-	123	169	771	163	171	762
Mov Cap-2 Maneuver	-	-	-	-	-	-	123	169	-	163	171	-
Stage 1	-	-	-	-	-	-	295	310	-	582	688	-
Stage 2	-	-	-	-	-	-	568	680	-	295	310	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.3	0	0	11.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1278	-	-	1301	-	-	163	762
HCM Lane V/C Ratio	-	0.212	-	-	-	-	-	0.041	0.168
HCM Control Delay (s)	0	8.6	-	-	0	-	-	28	10.7
HCM Lane LOS	A	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	-	0.8	-	-	0	-	-	0.1	0.6

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	241	10	16	83	25	177
Future Vol, veh/h	241	10	16	83	25	177
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	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	0	0	0	0	8
Mvmt Flow	305	13	20	105	32	224

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	178	32	32	0	-	0
Stage 1	32	-	-	-	-	-
Stage 2	146	-	-	-	-	-
Critical Hdwy	6.42	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	812	1048	1593	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	801	1048	1593	-	-	-
Mov Cap-2 Maneuver	801	-	-	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	870	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1593	-	809	-	-
HCM Lane V/C Ratio	0.013	-	0.393	-	-
HCM Control Delay (s)	7.3	0	12.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.9	-	-

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	512	400	23	137	125	165
v/c Ratio	0.44	0.44	0.08	0.18	0.33	0.11
Control Delay	15.4	15.0	24.7	14.5	22.7	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.4	15.0	24.7	14.5	22.7	10.8
Queue Length 50th (ft)	58	42	6	11	31	12
Queue Length 95th (ft)	131	102	29	37	93	45
Internal Link Dist (ft)	112	93		1057		1152
Turn Bay Length (ft)			94		102	
Base Capacity (vph)	2201	1706	793	2211	778	2336
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.23	0.03	0.06	0.16	0.07

Intersection Summary

Description: Changed from City Phasing to E-W NEMA Phase to get 2010 report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	446	18	80	214	70	21	84	41	114	144	6
Future Volume (veh/h)	2	446	18	80	214	70	21	84	41	114	144	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1878	1900	1900	1889	1900	1900	1875	1900	1863	1900	1900
Adj Flow Rate, veh/h	2	490	20	88	235	77	23	92	45	125	158	7
Adj No. of Lanes	0	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	0	0	0	0	2	2	2	0	0
Cap, veh/h	86	1412	57	302	742	251	41	381	175	171	827	36
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.02	0.16	0.16	0.10	0.23	0.23
Sat Flow, veh/h	2	3419	139	433	1795	607	1810	2369	1092	1774	3522	155
Grp Volume(v), veh/h	270	0	242	196	0	204	23	68	69	125	81	84
Grp Sat Flow(s),veh/h/ln	1876	0	1684	1223	0	1611	1810	1781	1680	1774	1805	1872
Q Serve(g_s), s	0.0	0.0	4.2	1.0	0.0	3.6	0.5	1.4	1.5	2.9	1.5	1.5
Cycle Q Clear(g_c), s	4.2	0.0	4.2	5.2	0.0	3.6	0.5	1.4	1.5	2.9	1.5	1.5
Prop In Lane	0.01		0.08	0.45		0.38	1.00		0.65	1.00		0.08
Lane Grp Cap(c), veh/h	860	0	696	628	0	666	41	286	270	171	424	440
V/C Ratio(X)	0.31	0.00	0.35	0.31	0.00	0.31	0.57	0.24	0.26	0.73	0.19	0.19
Avail Cap(c_a), veh/h	1408	0	1190	999	0	1138	852	1258	1187	836	1275	1323
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.5	0.0	8.5	8.4	0.0	8.4	20.6	15.5	15.6	18.6	13.0	13.0
Incr Delay (d2), s/veh	0.4	0.0	0.6	0.6	0.0	0.6	16.6	0.9	1.1	8.2	0.5	0.4
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	2.3	0.0	2.1	1.7	0.0	1.7	0.4	0.8	0.8	1.8	0.8	0.8
LnGrp Delay(d),s/veh	9.0	0.0	9.2	9.0	0.0	8.9	37.1	16.4	16.7	26.9	13.5	13.5
LnGrp LOS	A		A	A		A	D	B	B	C	B	B
Approach Vol, veh/h		512			400			160			290	
Approach Delay, s/veh		9.1			9.0			19.5			19.2	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		22.5	5.0	15.0		22.5	8.1	11.8
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		30.0	20.0	30.0		30.0	20.0	30.0
Max Q Clear Time (g_c+I1), s		6.2	2.5	3.5		7.2	4.9	3.5
Green Ext Time (p_c), s		10.7	0.0	3.2		10.4	0.4	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.4
HCM 2010 LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	20	538	191	46	350	86	75	69	126	7
v/c Ratio	0.10	0.60	0.22	0.20	0.19	0.33	0.24	0.28	0.40	0.02
Control Delay	34.3	26.8	6.7	33.8	15.5	33.6	27.2	33.6	33.1	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	26.8	6.7	33.8	15.5	33.6	27.2	33.6	33.1	0.2
Queue Length 50th (ft)	9	227	10	20	43	37	27	30	54	0
Queue Length 95th (ft)	31	#480	60	54	106	84	67	71	110	0
Internal Link Dist (ft)		1207			123		264		1057	
Turn Bay Length (ft)	134			61		70		100		
Base Capacity (vph)	690	1004	929	552	1834	552	798	552	813	761
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.54	0.21	0.08	0.19	0.16	0.09	0.13	0.15	0.01

Intersection Summary

Description: Changed to NEMA phasing, adjust min errors to allow 2010 HCS report

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	490	174	42	285	34	78	57	11	63	115	6
Future Volume (veh/h)	18	490	174	42	285	34	78	57	11	63	115	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	538	191	46	313	37	86	63	12	69	126	7
Adj No. of Lanes	1	1	1	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	35	742	631	68	1331	156	116	199	38	91	217	184
Arrive On Green	0.02	0.39	0.39	0.04	0.41	0.41	0.06	0.13	0.13	0.05	0.11	0.11
Sat Flow, veh/h	1810	1900	1615	1810	3256	382	1810	1552	296	1810	1900	1611
Grp Volume(v), veh/h	20	538	191	46	172	178	86	0	75	69	126	7
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1805	1833	1810	0	1848	1810	1900	1611
Q Serve(g_s), s	0.6	12.2	4.2	1.3	3.2	3.2	2.4	0.0	1.9	1.9	3.2	0.2
Cycle Q Clear(g_c), s	0.6	12.2	4.2	1.3	3.2	3.2	2.4	0.0	1.9	1.9	3.2	0.2
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	35	742	631	68	738	749	116	0	237	91	217	184
V/C Ratio(X)	0.57	0.73	0.30	0.68	0.23	0.24	0.74	0.00	0.32	0.76	0.58	0.04
Avail Cap(c_a), veh/h	890	935	794	712	888	901	712	0	1018	712	1047	887
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	13.2	10.7	24.2	9.8	9.8	23.4	0.0	20.1	23.8	21.3	20.0
Incr Delay (d2), s/veh	19.1	2.6	0.4	15.4	0.2	0.2	12.5	0.0	1.1	16.7	3.5	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	0.5	6.8	1.9	0.9	1.6	1.7	1.6	0.0	1.0	1.4	1.9	0.1
LnGrp Delay(d),s/veh	43.9	15.8	11.1	39.5	10.0	10.1	35.9	0.0	21.2	40.5	24.8	20.1
LnGrp LOS	D	B	B	D	B	B	D		C	D	C	C
Approach Vol, veh/h		749			396			161			202	
Approach Delay, s/veh		15.3			13.5			29.1			30.0	
Approach LOS		B			B			C			C	

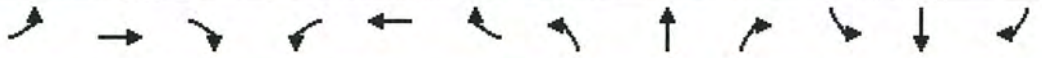
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	25.9	7.2	11.8	5.0	26.8	6.6	12.5
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	20.0	25.0	20.0	28.0	25.0	25.0	20.0	28.0
Max Q Clear Time (g_c+I1), s	3.3	14.2	4.4	5.2	2.6	5.2	3.9	3.9
Green Ext Time (p_c), s	0.1	5.6	0.2	1.5	0.0	8.1	0.2	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	18.3
HCM 2010 LOS	B

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	18	608	111	406	237	257
v/c Ratio	0.03	0.78	0.28	0.41	0.51	0.61
Control Delay	6.6	26.7	7.9	11.2	20.0	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	26.7	7.9	11.2	20.0	26.3
Queue Length 50th (ft)	2	186	15	66	60	80
Queue Length 95th (ft)	11	#444	41	208	122	151
Internal Link Dist (ft)		2334		2595	3508	1148
Turn Bay Length (ft)	150		150			
Base Capacity (vph)	848	782	685	1000	736	689
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.78	0.16	0.41	0.32	0.37

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	501	64	103	320	58	25	106	89	48	168	22
Future Volume (veh/h)	17	501	64	103	320	58	25	106	89	48	168	22
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1883	1900	1900	1884	1900	1900	1891	1900	1900	1887	1900
Adj Flow Rate, veh/h	18	539	69	111	344	62	27	114	96	52	181	24
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	0	1	1	1	1	1	1	1	1
Cap, veh/h	487	690	88	370	730	132	106	215	163	142	318	38
Arrive On Green	0.01	0.42	0.42	0.06	0.47	0.47	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1810	1637	210	1810	1554	280	104	921	698	234	1362	164
Grp Volume(v), veh/h	18	0	608	111	0	406	237	0	0	257	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1846	1810	0	1835	1724	0	0	1761	0	0
Q Serve(g_s), s	0.3	0.0	14.0	1.6	0.0	7.4	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	14.0	1.6	0.0	7.4	5.8	0.0	0.0	6.1	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.15	0.11		0.41	0.20		0.09
Lane Grp Cap(c), veh/h	487	0	779	370	0	862	484	0	0	499	0	0
V/C Ratio(X)	0.04	0.00	0.78	0.30	0.00	0.47	0.49	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	1141	0	898	938	0	892	903	0	0	918	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.2	0.0	12.3	9.3	0.0	8.9	16.7	0.0	0.0	16.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	4.4	0.4	0.0	0.6	1.1	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	8.0	0.8	0.0	3.9	3.0	0.0	0.0	3.2	0.0	0.0
LnGrp Delay(d),s/veh	8.3	0.0	16.7	9.7	0.0	9.5	17.8	0.0	0.0	18.0	0.0	0.0
LnGrp LOS	A		B	A		A	B			B		
Approach Vol, veh/h		626			517			237			257	
Approach Delay, s/veh		16.4			9.5			17.8			18.0	
Approach LOS		B			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.0	25.8		16.5	4.7	28.2		16.5
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	18.5	24.0		24.0	18.5	24.0		24.0
Max Q Clear Time (g_c+I1), s	3.6	16.0		8.1	2.3	9.4		7.8
Green Ext Time (p_c), s	0.2	4.8		3.8	0.0	7.5		3.8

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	12	589	33	349	181	176	6
v/c Ratio	0.05	0.64	0.13	0.35	0.51	0.45	0.01
Control Delay	24.6	17.5	24.3	9.7	23.5	22.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	17.5	24.3	9.7	23.5	22.9	0.0
Queue Length 50th (ft)	3	93	8	46	39	40	0
Queue Length 95th (ft)	18	#367	34	158	111	110	0
Internal Link Dist (ft)		3473		805	470	3508	
Turn Bay Length (ft)	61		75				135
Base Capacity (vph)	514	919	824	1245	478	527	589
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.64	0.04	0.28	0.38	0.33	0.01

Intersection Summary

Description: Changed to NEMA phase, adjust ped FDW
to get 2010 report

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	434	125	31	289	43	54	91	27	35	132	6
Future Volume (veh/h)	11	434	125	31	289	43	54	91	27	35	132	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1827	1884	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	12	457	132	33	304	45	57	96	28	37	139	6
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
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, %	0	0	0	4	1	1	0	0	0	0	0	0
Cap, veh/h	22	627	181	53	738	109	165	173	42	147	307	310
Arrive On Green	0.01	0.44	0.44	0.03	0.46	0.46	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1810	1418	410	1740	1604	237	287	901	218	239	1599	1615
Grp Volume(v), veh/h	12	0	589	33	0	349	181	0	0	176	0	6
Grp Sat Flow(s),veh/h/ln	1810	0	1828	1740	0	1842	1406	0	0	1838	0	1615
Q Serve(g_s), s	0.3	0.0	11.5	0.8	0.0	5.5	2.0	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.3	0.0	11.5	0.8	0.0	5.5	5.6	0.0	0.0	3.6	0.0	0.1
Prop In Lane	1.00		0.22	1.00		0.13	0.31		0.15	0.21		1.00
Lane Grp Cap(c), veh/h	22	0	809	53	0	848	380	0	0	454	0	310
V/C Ratio(X)	0.53	0.00	0.73	0.63	0.00	0.41	0.48	0.00	0.00	0.39	0.00	0.02
Avail Cap(c_a), veh/h	628	0	1057	1006	0	1022	665	0	0	761	0	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.2	0.0	9.9	20.7	0.0	7.8	16.2	0.0	0.0	15.6	0.0	14.2
Incr Delay (d2), s/veh	25.2	0.0	2.3	16.1	0.0	0.5	1.3	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	6.2	0.6	0.0	2.8	2.2	0.0	0.0	2.0	0.0	0.1
LnGrp Delay(d),s/veh	46.5	0.0	12.2	36.8	0.0	8.2	17.6	0.0	0.0	16.3	0.0	14.2
LnGrp LOS	D		B	D		A	B			B		B
Approach Vol, veh/h		601			382			181			182	
Approach Delay, s/veh		12.9			10.7			17.6			16.3	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	24.6		13.3	4.5	25.4		13.3
Change Period (Y+Rc), s	4.0	5.5		5.0	4.0	5.5		5.0
Max Green Setting (Gmax), s	25.0	25.0		16.0	15.0	24.0		16.0
Max Q Clear Time (g_c+I1), s	2.8	13.5		5.6	2.3	7.5		7.6
Green Ext Time (p_c), s	0.1	5.7		2.1	0.0	7.1		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	13.3
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	34	318	3	0	498
Future Vol, veh/h	0	34	318	3	0	498
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, %	0	0	3	0	0	2
Mvmt Flow	0	37	346	3	0	541

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	347	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	701	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	701	-	-	-	-
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)	-	-	701	-
HCM Lane V/C Ratio	-	-	0.053	-
HCM Control Delay (s)	-	-	10.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.2	-

5'

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	41	280	3	132	366
Future Vol, veh/h	4	41	280	3	132	366
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	-	-	-	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	4	45	304	3	143	398

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	991	306	0	0	308	0
Stage 1	306	-	-	-	-	-
Stage 2	685	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	275	739	-	-	1264	-
Stage 1	751	-	-	-	-	-
Stage 2	504	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	244	739	-	-	1264	-
Mov Cap-2 Maneuver	355	-	-	-	-	-
Stage 1	751	-	-	-	-	-
Stage 2	447	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	2.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	674	1264	-
HCM Lane V/C Ratio	-	-	0.073	0.114	-
HCM Control Delay (s)	-	-	10.8	8.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.4	-

5' 10'

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	22	261	3	35	335
Future Vol, veh/h	8	22	261	3	35	335
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	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	9	24	284	3	38	364

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	725	285	0	0	287	0
Stage 1	285	-	-	-	-	-
Stage 2	440	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	395	759	-	-	1287	-
Stage 1	768	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	383	759	-	-	1287	-
Mov Cap-2 Maneuver	383	-	-	-	-	-
Stage 1	768	-	-	-	-	-
Stage 2	634	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	602	1287	-
HCM Lane V/C Ratio	-	-	0.054	0.03	-
HCM Control Delay (s)	-	-	11.3	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

5' 2.5

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	103	160	18	139	205
Future Vol, veh/h	26	103	160	18	139	205
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	91	91	91	91	91	91
Heavy Vehicles, %	0	2	1	0	1	1
Mvmt Flow	29	113	176	20	153	225

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	717	186	0	0	196	0
Stage 1	186	-	-	-	-	-
Stage 2	531	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.209	-
Pot Cap-1 Maneuver	399	856	-	-	1383	-
Stage 1	851	-	-	-	-	-
Stage 2	594	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	349	856	-	-	1383	-
Mov Cap-2 Maneuver	349	-	-	-	-	-
Stage 1	851	-	-	-	-	-
Stage 2	519	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	3.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	662	1383	-
HCM Lane V/C Ratio	-	-	0.214	0.11	-
HCM Control Delay (s)	-	-	11.9	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0.4	-

20 10

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		⋔	
Traffic Vol, veh/h	34	123	104	2	2	26
Future Vol, veh/h	34	123	104	2	2	26
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	91	91	91	91	91	91
Heavy Vehicles, %	0	3	0	0	0	0
Mvmt Flow	37	135	114	2	2	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	116	0	-	0	325	115
Stage 1	-	-	-	-	115	-
Stage 2	-	-	-	-	210	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1485	-	-	-	673	943
Stage 1	-	-	-	-	915	-
Stage 2	-	-	-	-	830	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1485	-	-	-	655	943
Mov Cap-2 Maneuver	-	-	-	-	655	-
Stage 1	-	-	-	-	915	-
Stage 2	-	-	-	-	808	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1485	-	-	-	914
HCM Lane V/C Ratio	0.025	-	-	-	0.034
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

2.5

Intersection	
Int Delay, s/veh	54

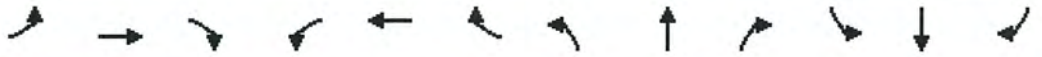
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	350	58	81	163	0	26	0	202	0	256	115
Future Vol, veh/h	0	350	58	81	163	0	26	0	202	0	256	115
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	3
Mvmt Flow	0	376	62	87	175	0	28	0	217	0	275	124

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	439	0	0	957	757	408	865	788	175
Stage 1	-	-	-	-	-	-	408	408	-	349	349	-
Stage 2	-	-	-	-	-	-	549	349	-	516	439	-
Critical Hdwy	-	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.327
Pot Cap-1 Maneuver	0	-	-	1132	-	0	239	339	648	276	326	866
Stage 1	0	-	-	-	-	0	624	600	-	671	637	-
Stage 2	0	-	-	-	-	0	524	637	-	546	582	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1132	-	-	37	310	648	172	298	866
Mov Cap-2 Maneuver	-	-	-	-	-	-	37	310	-	172	298	-
Stage 1	-	-	-	-	-	-	624	600	-	671	583	-
Stage 2	-	-	-	-	-	-	217	583	-	363	582	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.8	132	99.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	225	-	-	1132	-	374
HCM Lane V/C Ratio	1.09	-	-	0.077	-	1.067
HCM Control Delay (s)	132	-	-	8.4	0	99.2
HCM Lane LOS	F	-	-	A	A	F
HCM 95th %tile Q(veh)	10.9	-	-	0.2	-	13.9

272.5 5 347.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	350	58	81	163	0	26	0	202	0	256	115
Future Volume (vph)	0	350	58	81	163	0	26	0	202	0	256	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.5		4.5		4.5	4.5
Lane Util. Factor		0.95			1.00		1.00		1.00		1.00	1.00
Frpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Frt		0.98			1.00		1.00		0.85		1.00	0.85
Flt Protected		1.00			0.98		0.95		1.00		1.00	1.00
Satd. Flow (prot)		3503			1869		1805		1615		1900	1568
Flt Permitted		1.00			0.48		0.95		1.00		1.00	1.00
Satd. Flow (perm)		3503			915		1805		1615		1900	1568
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	376	62	87	175	0	28	0	217	0	275	124
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	198	0	0	86
Lane Group Flow (vph)	0	427	0	0	262	0	28	0	19	0	275	38
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Turn Type		NA		Perm	NA		Prot		Prot		NA	Perm
Protected Phases		18 3 8			14 4!		15		15		6!	
Permitted Phases				14 4!								6
Actuated Green, G (s)		35.0			48.3		10.6		10.6		37.4	37.4
Effective Green, g (s)		35.0			48.3		10.6		10.6		37.4	37.4
Actuated g/C Ratio		0.29			0.40		0.09		0.09		0.31	0.31
Clearance Time (s)							4.5		4.5		4.5	4.5
Vehicle Extension (s)							3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1004			362		156		140		582	480
v/s Ratio Prot		0.12					c0.02		0.01		c0.14	
v/s Ratio Perm					c0.29							0.02
v/c Ratio		0.43			0.72		0.18		0.13		0.47	0.08
Uniform Delay, d1		35.3			31.2		51.7		51.5		34.3	30.1
Progression Factor		1.00			0.39		1.00		1.00		1.00	1.00
Incremental Delay, d2		0.1			5.4		0.6		0.4		2.7	0.3
Delay (s)		35.4			17.7		52.2		51.9		37.0	30.4
Level of Service		D			B		D		D		D	C
Approach Delay (s)		35.4			17.7			51.9			35.0	
Approach LOS		D			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	543	71	259	8	29	350	101	422
v/c Ratio	0.79	0.11	0.73	0.02	0.24	0.67	0.52	0.49
Control Delay	43.6	5.2	58.7	0.1	63.2	55.2	63.0	43.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	5.2	58.7	0.1	63.2	55.2	63.0	43.8
Queue Length 50th (ft)	355	0	189	0	22	135	75	158
Queue Length 95th (ft)	#645	27	319	0	60	213	149	238
Internal Link Dist (ft)	49		154			343		461
Turn Bay Length (ft)				25	157		232	
Base Capacity (vph)	821	758	504	493	485	948	485	977
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.09	0.51	0.02	0.06	0.37	0.21	0.43

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	294	64	15	218	7	26	305	10	91	380	0
Future Volume (veh/h)	194	294	64	15	218	7	26	305	10	91	380	0
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1882	1900	1900	1863	1900	1900	1900	1900
Adj Flow Rate, veh/h	216	327	71	17	242	0	29	339	11	101	422	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	0	1	1	0	0	1	1	0	0	0
Cap, veh/h	254	384	554	21	303	279	54	548	18	134	725	0
Arrive On Green	0.35	0.35	0.35	0.17	0.17	0.00	0.03	0.16	0.16	0.07	0.20	0.00
Sat Flow, veh/h	729	1104	1593	123	1753	1615	1810	3499	113	1810	3705	0
Grp Volume(v), veh/h	543	0	71	259	0	0	29	171	179	101	422	0
Grp Sat Flow(s),veh/h/ln	1834	0	1593	1876	0	1615	1810	1770	1843	1810	1805	0
Q Serve(g_s), s	22.0	0.0	2.4	10.6	0.0	0.0	1.3	7.3	7.3	4.4	8.5	0.0
Cycle Q Clear(g_c), s	22.0	0.0	2.4	10.6	0.0	0.0	1.3	7.3	7.3	4.4	8.5	0.0
Prop In Lane	0.40		1.00	0.07		1.00	1.00		0.06	1.00		0.00
Lane Grp Cap(c), veh/h	638	0	554	324	0	279	54	277	289	134	725	0
V/C Ratio(X)	0.85	0.00	0.13	0.80	0.00	0.00	0.54	0.62	0.62	0.76	0.58	0.00
Avail Cap(c_a), veh/h	1141	0	991	701	0	603	676	661	688	676	1348	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.3	0.0	17.9	31.9	0.0	0.0	38.4	31.6	31.6	36.5	29.0	0.0
Incr Delay (d2), s/veh	3.3	0.0	0.1	4.6	0.0	0.0	8.2	1.7	1.6	8.4	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	0.0	1.1	5.9	0.0	0.0	0.8	3.6	3.8	2.5	4.2	0.0
LnGrp Delay(d),s/veh	27.6	0.0	18.0	36.5	0.0	0.0	46.6	33.3	33.3	44.9	29.3	0.0
LnGrp LOS	C		B	D			D	C	C	D	C	
Approach Vol, veh/h		614			259			379			523	
Approach Delay, s/veh		26.5			36.5			34.3			32.3	
Approach LOS		C			D			C			C	

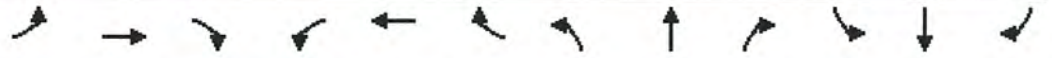
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.4	21.1		18.9	10.9	17.6		32.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	3.3	10.5		12.6	6.4	9.3		24.0
Green Ext Time (p_c), s	0.0	3.3		1.3	0.2	3.3		3.9

Intersection Summary	
HCM 2010 Ctrl Delay	31.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	294	64	15	218	7	26	305	10	91	380	0
Future Volume (vph)	194	294	64	15	218	7	26	305	10	91	380	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1698	1765	1593		1876	1615	1805	3574	1214	1805	3610	
Flt Permitted	0.95	0.00	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1698	0	1593		1812	1615	1805	3574	1214	1805	3610	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	216	327	71	17	242	8	29	339	11	101	422	0
RTOR Reduction (vph)	0	0	42	0	0	6	0	0	9	0	0	0
Lane Group Flow (vph)	194	349	29	0	259	2	29	339	2	101	422	0
Confl. Bikes (#/hr)			3									
Heavy Vehicles (%)	1%	2%	0%	0%	1%	0%	0%	1%	33%	0%	0%	0%
Turn Type	Prot	NA	custom	Perm	NA	Prot	Prot	NA	Perm	Prot	NA	
Protected Phases	3 16 15!	8 17 15			4!	4!	5!	2!		1!	6!	
Permitted Phases			8 17	4					2			
Actuated Green, G (s)	50.6	50.6	50.6		35.0	35.0	4.7	20.5	20.5	39.4	37.4	
Effective Green, g (s)	50.6	50.6	50.6		35.0	35.0	4.7	20.5	20.5	39.4	37.4	
Actuated g/C Ratio	0.41	0.41	0.41		0.29	0.29	0.04	0.17	0.17	0.32	0.31	
Clearance Time (s)					5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Vehicle Extension (s)					1.9	1.9	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	704	732	660		519	463	69	600	203	582	1106	
v/s Ratio Prot	0.11	c0.20				0.00	0.02	c0.09		0.06	c0.12	
v/s Ratio Perm			0.02		0.14				0.00			
v/c Ratio	0.28	0.48	0.04		0.50	0.00	0.42	0.56	0.01	0.17	0.38	
Uniform Delay, d1	23.6	26.0	21.3		36.2	31.1	57.3	46.7	42.3	29.6	33.2	
Progression Factor	0.34	0.39	0.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.3	0.0		0.3	0.0	4.1	1.2	0.0	0.6	1.0	
Delay (s)	8.3	10.5	0.0		36.5	31.1	61.4	47.9	42.3	30.3	34.2	
Level of Service	A	B	A		D	C	E	D	D	C	C	
Approach Delay (s)		8.6			36.3			48.7			33.5	
Approach LOS		A			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	516	71	133	392	44	64	75	83	60	127	32
Future Volume (veh/h)	37	516	71	133	392	44	64	75	83	60	127	32
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1883	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	47	662	91	171	503	56	82	96	106	77	163	41
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	0	1	1	0	0	0	0	0	0	0	0	0
Cap, veh/h	421	804	110	312	908	101	258	145	160	250	253	64
Arrive On Green	0.02	0.50	0.50	0.07	0.54	0.54	0.05	0.18	0.18	0.05	0.17	0.17
Sat Flow, veh/h	1810	1621	223	1810	1680	187	1810	826	913	1810	1466	369
Grp Volume(v), veh/h	47	0	753	171	0	559	82	0	202	77	0	204
Grp Sat Flow(s),veh/h/ln	1810	0	1844	1810	0	1867	1810	0	1739	1810	0	1835
Q Serve(g_s), s	1.2	0.0	31.6	4.0	0.0	17.8	3.3	0.0	9.8	3.1	0.0	9.4
Cycle Q Clear(g_c), s	1.2	0.0	31.6	4.0	0.0	17.8	3.3	0.0	9.8	3.1	0.0	9.4
Prop In Lane	1.00		0.12	1.00		0.10	1.00		0.52	1.00		0.20
Lane Grp Cap(c), veh/h	421	0	914	312	0	1009	258	0	305	250	0	317
V/C Ratio(X)	0.11	0.00	0.82	0.55	0.00	0.55	0.32	0.00	0.66	0.31	0.00	0.64
Avail Cap(c_a), veh/h	775	0	914	784	0	1009	561	0	613	658	0	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	0.0	19.5	16.7	0.0	13.7	29.0	0.0	34.9	29.2	0.0	34.9
Incr Delay (d2), s/veh	0.1	0.0	8.3	1.5	0.0	2.2	0.7	0.0	5.2	0.7	0.0	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	18.0	2.2	0.0	9.8	1.7	0.0	5.2	1.6	0.0	5.2
LnGrp Delay(d),s/veh	11.9	0.0	27.8	18.2	0.0	15.9	29.7	0.0	40.1	29.9	0.0	39.6
LnGrp LOS	B		C	B		B	C		D	C		D
Approach Vol, veh/h		800			730			284			281	
Approach Delay, s/veh		26.9			16.4			37.1			36.9	
Approach LOS		C			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	54.1	9.0	20.9	10.8	50.0	9.3	20.7
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	20.0	30.0	25.0	32.0	30.0	45.0	20.0	25.0
Max Q Clear Time (g_c+I1), s	3.2	19.8	5.1	11.8	6.0	33.6	5.3	11.4
Green Ext Time (p_c), s	0.1	8.2	0.1	4.2	0.4	9.0	0.1	3.4

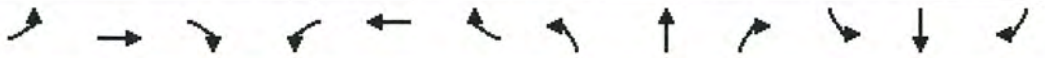
Intersection Summary	
HCM 2010 Ctrl Delay	26.0
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	47	753	171	559	82	96	106	77	204
v/c Ratio	0.11	0.91	0.56	0.56	0.28	0.28	0.26	0.21	0.62
Control Delay	11.4	46.6	25.7	21.9	29.2	40.5	4.1	28.1	47.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.4	46.6	25.7	21.9	29.2	40.5	4.1	28.1	47.8
Queue Length 50th (ft)	12	468	55	259	39	56	0	37	123
Queue Length 95th (ft)	28	#708	112	358	69	97	6	66	183
Internal Link Dist (ft)		2595		1832		2145			2663
Turn Bay Length (ft)	168		166		79		150	113	
Base Capacity (vph)	644	825	583	1039	440	600	609	539	678
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	0.07	0.91	0.29	0.54	0.19	0.16	0.17	0.14	0.30

Intersection Summary

Description: Plan 2

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	516	71	133	392	44	64	75	83	60	127	32
Future Volume (veh/h)	37	516	71	133	392	44	64	75	83	60	127	32
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1883	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	47	662	91	171	503	56	82	96	106	77	163	41
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	0
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	0	1	1	0	0	0	0	0	0	0	0	0
Cap, veh/h	432	817	112	322	921	103	244	311	265	315	236	59
Arrive On Green	0.02	0.50	0.50	0.07	0.55	0.55	0.05	0.16	0.16	0.05	0.16	0.16
Sat Flow, veh/h	1810	1621	223	1810	1680	187	1810	1900	1615	1810	1466	369
Grp Volume(v), veh/h	47	0	753	171	0	559	82	96	106	77	0	204
Grp Sat Flow(s),veh/h/ln	1810	0	1844	1810	0	1867	1810	1900	1615	1810	0	1835
Q Serve(g_s), s	1.1	0.0	30.6	3.8	0.0	17.2	3.3	4.0	5.2	3.1	0.0	9.4
Cycle Q Clear(g_c), s	1.1	0.0	30.6	3.8	0.0	17.2	3.3	4.0	5.2	3.1	0.0	9.4
Prop In Lane	1.00		0.12	1.00		0.10	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	432	0	929	322	0	1024	244	311	265	315	0	295
V/C Ratio(X)	0.11	0.00	0.81	0.53	0.00	0.55	0.34	0.31	0.40	0.24	0.00	0.69
Avail Cap(c_a), veh/h	793	0	929	805	0	1024	553	681	579	730	0	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.2	0.0	18.6	15.8	0.0	13.0	29.4	32.9	33.4	29.1	0.0	35.4
Incr Delay (d2), s/veh	0.1	0.0	7.6	1.4	0.0	2.1	0.8	1.2	2.1	0.4	0.0	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	17.4	2.1	0.0	9.4	1.7	2.2	2.5	1.6	0.0	5.3
LnGrp Delay(d),s/veh	11.3	0.0	26.2	17.2	0.0	15.1	30.2	34.1	35.5	29.5	0.0	41.4
LnGrp LOS	B		C	B		B	C	C	D	C		D
Approach Vol, veh/h		800			730			284			281	
Approach Delay, s/veh		25.3			15.6			33.5			38.1	
Approach LOS		C			B			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	54.0	9.0	19.6	10.7	50.0	9.3	19.4
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	20.0	30.0	25.0	32.0	30.0	45.0	20.0	25.0
Max Q Clear Time (g_c+I1), s	3.1	19.2	5.1	7.2	5.8	32.6	5.3	11.4
Green Ext Time (p_c), s	0.1	8.6	0.1	4.1	0.4	9.7	0.1	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	24.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	0	0	123	217	19
Future Vol, veh/h	9	0	0	123	217	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	5	0	0
Mvmt Flow	10	0	0	134	236	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	380	246	257	0	-	0
Stage 1	246	-	-	-	-	-
Stage 2	134	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	626	798	1320	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	626	798	1320	-	-	-
Mov Cap-2 Maneuver	626	-	-	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	897	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1320	-	626	-	-
HCM Lane V/C Ratio	-	-	0.016	-	-
HCM Control Delay (s)	0	-	10.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	2	3	104	185	32
Future Vol, veh/h	19	2	3	104	185	32
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, %	0	0	0	5	0	0
Mvmt Flow	21	2	3	113	201	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	338	218	236	0	-	0
Stage 1	218	-	-	-	-	-
Stage 2	120	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	662	827	1343	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	910	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	661	827	1343	-	-	-
Mov Cap-2 Maneuver	661	-	-	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	908	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1343	-	674	-	-
HCM Lane V/C Ratio	0.002	-	0.034	-	-
HCM Control Delay (s)	7.7	0	10.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	2	3	85	148	39
Future Vol, veh/h	22	2	3	85	148	39
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, %	0	0	0	5	0	0
Mvmt Flow	24	2	3	92	161	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	281	182	203	0	-	0
Stage 1	182	-	-	-	-	-
Stage 2	99	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	713	866	1381	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	712	866	1381	-	-	-
Mov Cap-2 Maneuver	712	-	-	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	928	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1381	-	723	-	-
HCM Lane V/C Ratio	0.002	-	0.036	-	-
HCM Control Delay (s)	7.6	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	8	13	80	137	13
Future Vol, veh/h	8	8	13	80	137	13
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, %	0	0	0	5	0	0
Mvmt Flow	9	9	14	87	149	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	271	156	163	0	-	0
Stage 1	156	-	-	-	-	-
Stage 2	115	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	723	895	1428	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	915	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	716	895	1428	-	-	-
Mov Cap-2 Maneuver	716	-	-	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	906	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	1.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1428	-	796	-	-
HCM Lane V/C Ratio	0.01	-	0.022	-	-
HCM Control Delay (s)	7.5	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.2

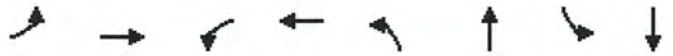
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	47	0	60	0	0	0	33	46	0	0	98	44
Future Vol, veh/h	47	0	60	0	0	0	33	46	0	0	98	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	5	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	55	0	70	0	0	0	38	53	0	0	114	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	270	270	140	304	295	53	165	0	0	53	0	0
Stage 1	140	140	-	130	130	-	-	-	-	-	-	-
Stage 2	130	130	-	174	165	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	676	640	913	652	620	1020	1426	-	-	1566	-	-
Stage 1	856	785	-	878	792	-	-	-	-	-	-	-
Stage 2	866	792	-	833	766	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	662	623	913	590	603	1020	1426	-	-	1566	-	-
Mov Cap-2 Maneuver	662	623	-	590	603	-	-	-	-	-	-	-
Stage 1	833	785	-	854	771	-	-	-	-	-	-	-
Stage 2	843	771	-	769	766	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	0	3.2	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1426	-	-	783	-	1566	-	-
HCM Lane V/C Ratio	0.027	-	-	0.159	-	-	-	-
HCM Control Delay (s)	7.6	0	-	10.5	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	-	0	-	-

2.5 15



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	108	672	214	513	175	369	66	397
v/c Ratio	0.53	0.58	0.70	0.72	0.64	0.42	0.41	0.69
Control Delay	56.8	31.1	55.9	37.3	55.6	28.8	57.2	47.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.8	31.1	55.9	37.3	55.6	28.8	57.2	47.4
Queue Length 50th (ft)	70	176	136	289	112	86	43	125
Queue Length 95th (ft)	137	281	238	497	199	140	95	194
Internal Link Dist (ft)		150		291		6700		1848
Turn Bay Length (ft)	108		112		131		184	
Base Capacity (vph)	427	1322	423	714	512	1290	512	1326
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.51	0.51	0.72	0.34	0.29	0.13	0.30

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	358	213	182	385	51	149	194	120	56	260	77
Future Volume (veh/h)	92	358	213	182	385	51	149	194	120	56	260	77
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1876	1900	1881	1883	1900	1900	1824	1900	1900	1885	1900
Adj Flow Rate, veh/h	108	421	251	214	453	60	175	228	141	66	306	91
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	2	2	1	1	1	0	3	3	0	1	1
Cap, veh/h	142	650	384	261	600	80	221	526	313	88	487	142
Arrive On Green	0.08	0.30	0.30	0.15	0.37	0.37	0.12	0.25	0.25	0.05	0.18	0.18
Sat Flow, veh/h	1810	2159	1275	1792	1629	216	1810	2093	1245	1810	2736	800
Grp Volume(v), veh/h	108	347	325	214	0	513	175	187	182	66	198	199
Grp Sat Flow(s),veh/h/ln	1810	1783	1651	1792	0	1845	1810	1733	1605	1810	1791	1744
Q Serve(g_s), s	4.6	13.3	13.5	9.2	0.0	19.2	7.4	7.2	7.6	2.8	8.1	8.3
Cycle Q Clear(g_c), s	4.6	13.3	13.5	9.2	0.0	19.2	7.4	7.2	7.6	2.8	8.1	8.3
Prop In Lane	1.00		0.77	1.00		0.12	1.00		0.78	1.00		0.46
Lane Grp Cap(c), veh/h	142	537	497	261	0	680	221	436	404	88	319	310
V/C Ratio(X)	0.76	0.65	0.65	0.82	0.00	0.75	0.79	0.43	0.45	0.75	0.62	0.64
Avail Cap(c_a), veh/h	573	903	836	567	0	934	687	878	813	687	907	883
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	24.0	24.0	32.7	0.0	21.8	33.7	24.8	25.0	37.1	30.0	30.1
Incr Delay (d2), s/veh	8.1	1.3	1.5	6.2	0.0	2.3	6.3	0.5	0.6	12.2	1.7	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	6.7	6.3	5.0	0.0	10.1	4.1	3.5	3.4	1.7	4.1	4.2
LnGrp Delay(d),s/veh	43.7	25.3	25.5	39.0	0.0	24.2	40.0	25.3	25.5	49.3	31.7	32.0
LnGrp LOS	D	C	C	D		C	D	C	C	D	C	C
Approach Vol, veh/h		780			727			544			463	
Approach Delay, s/veh		27.9			28.5			30.1			34.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	25.4	16.0	28.3	15.1	19.6	10.7	33.6
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	40.0	30.0	40.0	25.0	40.0
Max Q Clear Time (g_c+I1), s	4.8	9.6	11.2	15.5	9.4	10.3	6.6	21.2
Green Ext Time (p_c), s	0.1	3.7	0.5	8.2	0.4	3.7	0.2	7.4

Intersection Summary	
HCM 2010 Ctrl Delay	29.8
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	214	410	0	0	415	11	0	0	0	17	0	223
Future Vol, veh/h	214	410	0	0	415	11	0	0	0	17	0	223
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	-	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	0	0	0	0	0	0	0	33	0	22
Mvmt Flow	271	519	0	0	525	14	0	0	0	22	0	282

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	539	0	0	519	0	0	1734	1600	520	1594	1593	532
Stage 1	-	-	-	-	-	-	1061	1061	-	532	532	-
Stage 2	-	-	-	-	-	-	673	539	-	1062	1061	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.43	6.5	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.43	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.43	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.797	4	3.498
Pot Cap-1 Maneuver	1034	-	-	1057	-	-	70	107	560	73	108	510
Stage 1	-	-	-	-	-	-	273	303	-	479	529	-
Stage 2	-	-	-	-	-	-	448	525	-	236	303	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1034	-	-	1056	-	-	25	79	559	58	80	510
Mov Cap-2 Maneuver	-	-	-	-	-	-	25	79	-	58	80	-
Stage 1	-	-	-	-	-	-	201	224	-	353	529	-
Stage 2	-	-	-	-	-	-	200	525	-	174	224	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0	0	26.1
HCM LOS			A	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1034	-	-	1056	-	-	58	510
HCM Lane V/C Ratio	-	0.262	-	-	-	-	-	0.371	0.553
HCM Control Delay (s)	0	9.7	-	-	0	-	-	99.9	20.5
HCM Lane LOS	A	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	-	1.1	-	-	0	-	-	1.4	3.3

27.5 35 82.5

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	294	17	23	54	98	370
Future Vol, veh/h	294	17	23	54	98	370
Conflicting Peds, #/hr	0	0	1	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	0	0	2	0	0
Mvmt Flow	323	19	25	59	108	407

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	219	109	109	0	-	0
Stage 1	109	-	-	-	-	-
Stage 2	110	-	-	-	-	-
Critical Hdwy	6.42	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	769	950	1494	-	-	-
Stage 1	916	-	-	-	-	-
Stage 2	915	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	754	949	1494	-	-	-
Mov Cap-2 Maneuver	754	-	-	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	899	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	2.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1494	-	763	-	-
HCM Lane V/C Ratio	0.017	-	0.448	-	-
HCM Control Delay (s)	7.5	0	13.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	2.3	-	-

2.5 57.5

YEAR 2030

LEVEL OF SERVICE CALCULATIONS

WITHOUT PROJECT

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	152	7	38	538	131	22	88	71	72	55	5
Future Volume (veh/h)	5	152	7	38	538	131	22	88	71	72	55	5
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1868	1900	1900	1883	1900	1900	1875	1900	1759	1831	1900
Adj Flow Rate, veh/h	5	165	8	41	585	142	24	96	77	78	60	5
Adj No. of Lanes	0	2	0	0	2	0	1	2	0	1	2	0
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, %	1	1	1	0	0	0	0	0	0	8	2	2
Cap, veh/h	99	1496	71	134	1217	287	42	318	233	99	647	53
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.02	0.16	0.16	0.06	0.20	0.20
Sat Flow, veh/h	23	3325	158	91	2705	638	1810	1956	1429	1675	3255	268
Grp Volume(v), veh/h	93	0	85	412	0	356	24	87	86	78	32	33
Grp Sat Flow(s),veh/h/ln	1833	0	1672	1833	0	1601	1810	1781	1604	1675	1739	1784
Q Serve(g_s), s	0.0	0.0	1.3	0.0	0.0	6.7	0.6	1.8	2.0	2.0	0.6	0.6
Cycle Q Clear(g_c), s	1.2	0.0	1.3	6.6	0.0	6.7	0.6	1.8	2.0	2.0	0.6	0.6
Prop In Lane	0.05		0.09	0.10		0.40	1.00		0.89	1.00		0.15
Lane Grp Cap(c), veh/h	914	0	752	918	0	720	42	290	261	99	346	354
V/C Ratio(X)	0.10	0.00	0.11	0.45	0.00	0.49	0.57	0.30	0.33	0.79	0.09	0.09
Avail Cap(c_a), veh/h	1350	0	1176	1370	0	1126	848	1252	1128	785	1223	1254
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	0.0	6.8	8.3	0.0	8.3	20.6	15.7	15.8	19.8	14.0	14.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.7	0.0	1.1	16.2	1.2	1.6	17.5	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	0.6	0.0	0.6	3.5	0.0	3.1	0.5	1.0	1.0	1.4	0.3	0.3
LnGrp Delay(d),s/veh	6.9	0.0	6.9	9.0	0.0	9.4	36.9	16.9	17.4	37.3	14.2	14.2
LnGrp LOS	A		A	A		A	D	B	B	D	B	B
Approach Vol, veh/h		178			768			197			143	
Approach Delay, s/veh		6.9			9.2			19.6			26.8	
Approach LOS		A			A			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		24.2	5.0	13.5		24.2	6.5	11.9
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		30.0	20.0	30.0		30.0	20.0	30.0
Max Q Clear Time (g_c+I1), s		3.3	2.6	2.6		8.7	4.0	4.0
Green Ext Time (p_c), s		11.9	0.0	2.5		10.5	0.2	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	12.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	151	41	12	452	23	251	112	26	17	44	13
Future Volume (veh/h)	1	151	41	12	452	23	251	112	26	17	44	13
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1776	1900	1900	1859	1900	1900	1885	1900	1900	1810	1900
Adj Flow Rate, veh/h	1	166	45	13	497	25	276	123	29	19	48	14
Adj No. of Lanes	1	1	1	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	7	0	0	2	2	0	1	1	0	5	0
Cap, veh/h	4	482	438	24	970	49	369	357	84	34	103	92
Arrive On Green	0.00	0.27	0.27	0.01	0.28	0.28	0.20	0.24	0.24	0.02	0.06	0.06
Sat Flow, veh/h	1810	1776	1615	1810	3423	172	1810	1475	348	1810	1810	1615
Grp Volume(v), veh/h	1	166	45	13	256	266	276	0	152	19	48	14
Grp Sat Flow(s),veh/h/ln	1810	1776	1615	1810	1766	1829	1810	0	1823	1810	1810	1615
Q Serve(g_s), s	0.0	3.3	0.9	0.3	5.3	5.4	6.3	0.0	3.0	0.5	1.1	0.4
Cycle Q Clear(g_c), s	0.0	3.3	0.9	0.3	5.3	5.4	6.3	0.0	3.0	0.5	1.1	0.4
Prop In Lane	1.00		1.00	1.00		0.09	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	4	482	438	24	501	518	369	0	441	34	103	92
V/C Ratio(X)	0.24	0.34	0.10	0.54	0.51	0.51	0.75	0.00	0.34	0.56	0.47	0.15
Avail Cap(c_a), veh/h	1028	1009	918	823	1004	1039	823	0	1160	823	1152	1028
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	12.9	12.0	21.6	13.2	13.2	16.4	0.0	13.8	21.4	20.1	19.7
Incr Delay (d2), s/veh	38.9	0.6	0.1	23.9	1.2	1.1	4.3	0.0	0.7	18.7	4.6	1.1
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	0.1	1.7	0.4	0.3	2.7	2.8	3.6	0.0	1.6	0.4	0.7	0.2
LnGrp Delay(d),s/veh	60.8	13.5	12.2	45.5	14.4	14.3	20.7	0.0	14.4	40.1	24.7	20.8
LnGrp LOS	E	B	B	D	B	B	C		B	D	C	C
Approach Vol, veh/h		212			535			428			81	
Approach Delay, s/veh		13.4			15.1			18.5			27.6	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	17.9	13.0	8.5	4.0	18.5	4.8	16.6
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	20.0	25.0	20.0	28.0	25.0	25.0	20.0	28.0
Max Q Clear Time (g_c+I1), s	2.3	5.3	8.3	3.1	2.0	7.4	2.5	5.0
Green Ext Time (p_c), s	0.0	5.4	1.0	1.6	0.0	5.1	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	16.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	490	40	27	316	9	61	55	33	86	129	108
Future Volume (veh/h)	60	490	40	27	316	9	61	55	33	86	129	108
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1849	1900	1900	1823	1900	1900	1856	1900	1900	1886	1900
Adj Flow Rate, veh/h	68	557	45	31	359	10	69	62	38	98	147	123
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	3	3	0	4	4	2	2	2	1	1	1
Cap, veh/h	444	689	56	273	687	19	240	204	101	190	230	167
Arrive On Green	0.04	0.41	0.41	0.02	0.39	0.39	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1774	1688	136	1810	1765	49	472	675	333	338	762	552
Grp Volume(v), veh/h	68	0	602	31	0	369	169	0	0	368	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1825	1810	0	1814	1480	0	0	1652	0	0
Q Serve(g_s), s	1.2	0.0	15.2	0.5	0.0	8.1	0.0	0.0	0.0	6.1	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	15.2	0.5	0.0	8.1	4.1	0.0	0.0	10.2	0.0	0.0
Prop In Lane	1.00		0.07	1.00		0.03	0.41		0.22	0.27		0.33
Lane Grp Cap(c), veh/h	444	0	745	273	0	706	544	0	0	587	0	0
V/C Ratio(X)	0.15	0.00	0.81	0.11	0.00	0.52	0.31	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	1004	0	841	878	0	836	768	0	0	841	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.5	0.0	13.6	11.2	0.0	12.2	14.0	0.0	0.0	16.1	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	5.8	0.2	0.0	0.9	0.5	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	8.7	0.3	0.0	4.2	1.9	0.0	0.0	5.0	0.0	0.0
LnGrp Delay(d),s/veh	9.7	0.0	19.4	11.4	0.0	13.0	14.5	0.0	0.0	17.7	0.0	0.0
LnGrp LOS	A		B	B		B	B			B		
Approach Vol, veh/h		670			400			169			368	
Approach Delay, s/veh		18.4			12.9			14.5			17.7	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	26.3		20.7	6.1	25.3		20.7
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	18.5	24.0		24.0	18.5	24.0		24.0
Max Q Clear Time (g_c+I1), s	2.5	17.2		12.2	3.2	10.1		6.1
Green Ext Time (p_c), s	0.0	4.1		3.6	0.1	6.9		4.5

Intersection Summary		
HCM 2010 Ctrl Delay	16.5	
HCM 2010 LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	137	37	12	326	27	132	169	19	26	70	8
Future Volume (veh/h)	7	137	37	12	326	27	132	169	19	26	70	8
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1859	1900	1900	1883	1900	1900	1883	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	156	42	14	370	31	150	192	22	30	80	9
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	2	2	0	1	1	1	1	1	0	0	0
Cap, veh/h	15	462	124	26	571	48	292	282	29	202	448	478
Arrive On Green	0.01	0.33	0.33	0.01	0.33	0.33	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1810	1412	380	1810	1714	144	558	953	97	296	1513	1615
Grp Volume(v), veh/h	8	0	198	14	0	401	364	0	0	110	0	9
Grp Sat Flow(s),veh/h/ln	1810	0	1792	1810	0	1857	1608	0	0	1809	0	1615
Q Serve(g_s), s	0.2	0.0	3.3	0.3	0.0	7.4	6.4	0.0	0.0	0.0	0.0	0.2
Cycle Q Clear(g_c), s	0.2	0.0	3.3	0.3	0.0	7.4	8.2	0.0	0.0	1.7	0.0	0.2
Prop In Lane	1.00		0.21	1.00		0.08	0.41		0.06	0.27		1.00
Lane Grp Cap(c), veh/h	15	0	587	26	0	619	603	0	0	650	0	478
V/C Ratio(X)	0.52	0.00	0.34	0.54	0.00	0.65	0.60	0.00	0.00	0.17	0.00	0.02
Avail Cap(c_a), veh/h	677	0	1118	1129	0	1112	767	0	0	818	0	645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	10.2	19.6	0.0	11.4	12.7	0.0	0.0	10.5	0.0	10.0
Incr Delay (d2), s/veh	33.7	0.0	0.5	22.3	0.0	1.6	1.4	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.7	0.3	0.0	4.0	3.9	0.0	0.0	0.9	0.0	0.1
LnGrp Delay(d),s/veh	53.5	0.0	10.7	41.9	0.0	13.0	14.1	0.0	0.0	10.7	0.0	10.0
LnGrp LOS	D		B	D		B	B			B		B
Approach Vol, veh/h		206			415			364			119	
Approach Delay, s/veh		12.3			14.0			14.1			10.7	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.6	18.6		16.9	4.3	18.9		16.9
Change Period (Y+Rc), s	4.0	5.5		5.0	4.0	5.5		5.0
Max Green Setting (Gmax), s	25.0	25.0		16.0	15.0	24.0		16.0
Max Q Clear Time (g_c+I1), s	2.3	5.3		3.7	2.2	9.4		10.2
Green Ext Time (p_c), s	0.0	4.6		3.2	0.0	4.0		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	13.4
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	99	257	14	45	131
Future Vol, veh/h	7	99	257	14	45	131
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	79	79	79	79	79	79
Heavy Vehicles, %	0	0	3	0	3	5
Mvmt Flow	9	125	325	18	57	166

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	614	334	0	0	343	0
Stage 1	334	-	-	-	-	-
Stage 2	280	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.227	-
Pot Cap-1 Maneuver	459	712	-	-	1210	-
Stage 1	730	-	-	-	-	-
Stage 2	772	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	435	712	-	-	1210	-
Mov Cap-2 Maneuver	435	-	-	-	-	-
Stage 1	730	-	-	-	-	-
Stage 2	732	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	683	1210	-
HCM Lane V/C Ratio	-	-	0.196	0.047	-
HCM Control Delay (s)	-	-	11.6	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

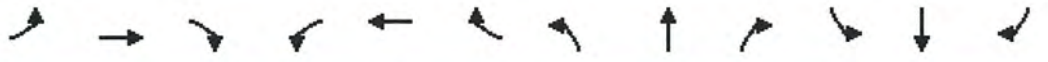
Intersection	
Int Delay, s/veh	12.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	265	48	56	230	0	30	0	241	0	161	37
Future Vol, veh/h	0	265	48	56	230	0	30	0	241	0	161	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	4	0	0	5	0	0	0	2	2	6	0
Mvmt Flow	0	301	55	64	261	0	34	0	274	0	183	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	356	0	0	829	717	328	854	745	261
Stage 1	-	-	-	-	-	-	328	328	-	389	389	-
Stage 2	-	-	-	-	-	-	501	389	-	465	356	-
Critical Hdwy	-	-	-	4.1	-	-	7.1	6.5	6.22	7.12	6.56	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.56	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.318	3.518	4.054	3.3
Pot Cap-1 Maneuver	0	-	-	1214	-	0	292	358	713	279	338	783
Stage 1	0	-	-	-	-	0	689	651	-	635	601	-
Stage 2	0	-	-	-	-	0	556	612	-	578	622	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1214	-	-	143	336	713	164	317	783
Mov Cap-2 Maneuver	-	-	-	-	-	-	143	336	-	164	317	-
Stage 1	-	-	-	-	-	-	689	651	-	635	564	-
Stage 2	-	-	-	-	-	-	333	574	-	356	622	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	23.5	30.8
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	495	-	-	1214	-	357
HCM Lane V/C Ratio	0.622	-	-	0.052	-	0.63
HCM Control Delay (s)	23.5	-	-	8.1	0	30.8
HCM Lane LOS	C	-	-	A	A	D
HCM 95th %tile Q(veh)	4.2	-	-	0.2	-	4.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	265	48	56	230	0	30	0	241	0	161	37
Future Volume (vph)	0	265	48	56	230	0	30	0	241	0	161	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.5		4.5		4.5	4.5
Lane Util. Factor		0.95			1.00		1.00		1.00		1.00	1.00
Frpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Frt		0.98			1.00		1.00		0.85		1.00	0.85
Flt Protected		1.00			0.99		0.95		1.00		1.00	1.00
Satd. Flow (prot)		3497			1882		1805		1615		1900	1568
Flt Permitted		1.00			0.70		0.95		1.00		1.00	1.00
Satd. Flow (perm)		3497			1334		1805		1615		1900	1568
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	285	52	60	247	0	32	0	259	0	173	40
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	235	0	0	28
Lane Group Flow (vph)	0	325	0	0	307	0	32	0	24	0	173	12
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Turn Type		NA		Perm	NA		Prot		Prot		NA	Perm
Protected Phases		18 3 8			14 4!		15		15		6!	
Permitted Phases				14 4!								6
Actuated Green, G (s)		35.0			46.6		11.4		11.4		37.6	37.6
Effective Green, g (s)		35.0			46.6		11.4		11.4		37.6	37.6
Actuated g/C Ratio		0.29			0.38		0.09		0.09		0.31	0.31
Clearance Time (s)							4.5		4.5		4.5	4.5
Vehicle Extension (s)							3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1003			509		168		150		585	483
v/s Ratio Prot		0.09					c0.02		0.01		c0.09	
v/s Ratio Perm					c0.23							0.01
v/c Ratio		0.32			0.60		0.19		0.16		0.30	0.03
Uniform Delay, d1		34.2			30.3		51.0		50.9		32.1	29.4
Progression Factor		1.00			0.16		1.00		1.00		1.00	1.00
Incremental Delay, d2		0.1			1.2		0.6		0.5		1.3	0.1
Delay (s)		34.3			6.2		51.6		51.4		33.4	29.5
Level of Service		C			A		D		D		C	C
Approach Delay (s)		34.3			6.2			51.4			32.7	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	245	28	6	223	80	63	514	21	46	129	1
Future Volume (veh/h)	233	245	28	6	223	80	63	514	21	46	129	1
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1864	1900	1900	1882	1900	1900	1827	1900
Adj Flow Rate, veh/h	274	288	33	7	262	0	74	605	25	54	152	1
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	1	1	0	2	2	0	0	1	1	0	4	4
Cap, veh/h	313	329	557	8	317	282	98	763	31	74	723	5
Arrive On Green	0.35	0.35	0.35	0.17	0.17	0.00	0.05	0.22	0.22	0.04	0.20	0.20
Sat Flow, veh/h	895	941	1593	48	1813	1615	1810	3500	144	1810	3536	23
Grp Volume(v), veh/h	562	0	33	269	0	0	74	309	321	54	75	78
Grp Sat Flow(s),veh/h/ln	1836	0	1593	1861	0	1615	1810	1788	1856	1810	1736	1823
Q Serve(g_s), s	26.4	0.0	1.3	12.8	0.0	0.0	3.7	15.0	15.1	2.7	3.3	3.3
Cycle Q Clear(g_c), s	26.4	0.0	1.3	12.8	0.0	0.0	3.7	15.0	15.1	2.7	3.3	3.3
Prop In Lane	0.49		1.00	0.03		1.00	1.00		0.08	1.00		0.01
Lane Grp Cap(c), veh/h	642	0	557	325	0	282	98	390	404	74	355	373
V/C Ratio(X)	0.88	0.00	0.06	0.83	0.00	0.00	0.76	0.79	0.79	0.73	0.21	0.21
Avail Cap(c_a), veh/h	998	0	865	607	0	527	590	583	605	590	566	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	0.0	19.9	36.6	0.0	0.0	42.9	34.0	34.0	43.6	30.4	30.4
Incr Delay (d2), s/veh	5.7	0.0	0.0	5.4	0.0	0.0	11.1	3.6	3.5	13.1	0.1	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	14.3	0.0	0.6	7.1	0.0	0.0	2.2	7.8	8.1	1.6	1.6	1.7
LnGrp Delay(d),s/veh	33.7	0.0	19.9	42.0	0.0	0.0	54.0	37.6	37.5	56.8	30.5	30.5
LnGrp LOS	C		B	D			D	D	D	E	C	C
Approach Vol, veh/h		595			269			704			207	
Approach Delay, s/veh		32.9			42.0			39.3			37.4	
Approach LOS		C			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.0	23.8		21.1	8.7	25.0		37.2
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	5.7	5.3		14.8	4.7	17.1		28.4
Green Ext Time (p_c), s	0.2	3.6		1.3	0.1	3.0		3.8

Intersection Summary	
HCM 2010 Ctrl Delay	37.4
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	245	28	6	223	80	63	514	21	46	129	1
Future Volume (vph)	233	245	28	6	223	80	63	514	21	46	129	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1698	1763	1593		1879	1615	1805	3574	1214	1805	3606	
Flt Permitted	0.95	0.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1698	0	1593		1862	1615	1805	3574	1214	1805	3606	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	259	272	31	7	248	89	70	571	23	51	143	1
RTOR Reduction (vph)	0	0	18	0	0	63	0	0	19	0	0	0
Lane Group Flow (vph)	233	298	13	0	255	26	70	571	4	51	144	0
Confl. Bikes (#/hr)			3									
Heavy Vehicles (%)	1%	2%	0%	0%	1%	0%	0%	1%	33%	0%	0%	0%
Turn Type	Prot	NA	custom	Perm	NA	Prot	Prot	NA	Perm	Prot	NA	
Protected Phases	3 16 15!	8 17 15			4!	4!	5!	2!		1!	6!	
Permitted Phases			8 17	4					2			
Actuated Green, G (s)	51.4	51.4	51.4		35.0	35.0	6.4	19.5	19.5	38.6	37.6	
Effective Green, g (s)	51.4	51.4	51.4		35.0	35.0	6.4	19.5	19.5	38.6	37.6	
Actuated g/C Ratio	0.42	0.42	0.42		0.29	0.29	0.05	0.16	0.16	0.32	0.31	
Clearance Time (s)					5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Vehicle Extension (s)					1.9	1.9	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	715	742	671		534	463	94	571	194	571	1111	
v/s Ratio Prot	0.14	c0.17				0.02	0.04	c0.16		0.03	c0.04	
v/s Ratio Perm			0.01		c0.14				0.00			
v/c Ratio	0.33	0.40	0.02		0.48	0.06	0.74	1.00	0.02	0.09	0.13	
Uniform Delay, d1	23.7	24.6	20.6		35.9	31.5	57.0	51.2	43.2	29.3	30.4	
Progression Factor	0.46	0.49	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.2	0.0		0.2	0.0	27.0	37.7	0.0	0.3	0.2	
Delay (s)	11.1	12.2	20.6		36.2	31.5	84.0	88.9	43.2	29.6	30.6	
Level of Service	B	B	C		D	C	F	F	D	C	C	
Approach Delay (s)		12.2			35.0			86.8			30.4	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	46.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	410	4	49	478	62	51	69	125	213	43	37
Future Volume (veh/h)	18	410	4	49	478	62	51	69	125	213	43	37
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.99	0.93		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1838	1900	1900	1864	1900	1863	1900	1900
Adj Flow Rate, veh/h	22	494	5	59	576	75	61	83	151	257	52	45
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	0	3	3	3	3	3	0	0	0	2	0	0
Cap, veh/h	238	832	8	354	755	98	365	105	192	368	256	221
Arrive On Green	0.01	0.46	0.46	0.03	0.47	0.47	0.04	0.18	0.18	0.14	0.28	0.28
Sat Flow, veh/h	1810	1823	18	1757	1592	207	1810	581	1057	1774	914	791
Grp Volume(v), veh/h	22	0	499	59	0	651	61	0	234	257	0	97
Grp Sat Flow(s),veh/h/ln	1810	0	1841	1757	0	1800	1810	0	1638	1774	0	1706
Q Serve(g_s), s	0.6	0.0	19.9	1.8	0.0	29.4	2.7	0.0	13.4	11.0	0.0	4.3
Cycle Q Clear(g_c), s	0.6	0.0	19.9	1.8	0.0	29.4	2.7	0.0	13.4	11.0	0.0	4.3
Prop In Lane	1.00		0.01	1.00		0.12	1.00		0.65	1.00		0.46
Lane Grp Cap(c), veh/h	238	0	841	354	0	854	365	0	297	368	0	477
V/C Ratio(X)	0.09	0.00	0.59	0.17	0.00	0.76	0.17	0.00	0.79	0.70	0.00	0.20
Avail Cap(c_a), veh/h	580	0	841	834	0	854	661	0	532	574	0	477
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.0	0.0	20.0	15.5	0.0	21.3	31.0	0.0	38.5	26.7	0.0	27.1
Incr Delay (d2), s/veh	0.2	0.0	3.1	0.2	0.0	6.4	0.2	0.0	9.5	2.4	0.0	0.4
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	0.3	0.0	10.8	0.9	0.0	16.0	1.4	0.0	6.8	5.6	0.0	2.1
LnGrp Delay(d),s/veh	18.1	0.0	23.0	15.7	0.0	27.7	31.2	0.0	48.0	29.1	0.0	27.5
LnGrp LOS	B		C	B		C	C		D	C		C
Approach Vol, veh/h		521			710			295			354	
Approach Delay, s/veh		22.8			26.7			44.5			28.7	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	51.7	18.1	22.9	7.6	50.0	8.4	32.6
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	20.0	30.0	25.0	32.0	30.0	45.0	20.0	25.0
Max Q Clear Time (g_c+I1), s	2.6	31.4	13.0	15.4	3.8	21.9	4.7	6.3
Green Ext Time (p_c), s	0.0	0.0	0.6	2.2	0.1	14.0	0.1	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	28.8
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	89	0	16	0	0	0	68	86	0	0	33	63
Future Vol, veh/h	89	0	16	0	0	0	68	86	0	0	33	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	4	0	0	0	0	0	2	0	0	0	0	0
Mvmt Flow	109	0	20	0	0	0	83	105	0	0	40	77

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	350	350	79	359	388	105	117	0	0	105	0	0
Stage 1	79	79	-	271	271	-	-	-	-	-	-	-
Stage 2	271	271	-	88	117	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4	3.3	3.5	4	3.3	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	601	577	987	600	550	955	1471	-	-	1499	-	-
Stage 1	925	833	-	739	689	-	-	-	-	-	-	-
Stage 2	730	689	-	925	803	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	573	542	987	561	517	955	1471	-	-	1499	-	-
Mov Cap-2 Maneuver	573	542	-	561	517	-	-	-	-	-	-	-
Stage 1	870	833	-	695	648	-	-	-	-	-	-	-
Stage 2	686	648	-	907	803	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.4	0	3.4	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1471	-	-	612	-	1499	-	-
HCM Lane V/C Ratio	0.056	-	-	0.209	-	-	-	-
HCM Control Delay (s)	7.6	0	-	12.4	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.8	-	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	268	70	76	231	89	149	339	165	29	103	85
Future Volume (veh/h)	147	268	70	76	231	89	149	339	165	29	103	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1837	1900	1810	1850	1900	1845	1856	1900	1900	1794	1900
Adj Flow Rate, veh/h	158	288	75	82	248	96	160	365	177	31	111	91
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	3	3	5	3	3	3	3	3	0	5	5
Cap, veh/h	207	925	237	107	357	138	209	551	263	61	282	213
Arrive On Green	0.12	0.34	0.34	0.06	0.28	0.28	0.12	0.24	0.24	0.03	0.15	0.15
Sat Flow, veh/h	1774	2753	705	1723	1271	492	1757	2318	1107	1810	1853	1399
Grp Volume(v), veh/h	158	181	182	82	0	344	160	276	266	31	101	101
Grp Sat Flow(s),veh/h/ln	1774	1745	1713	1723	0	1763	1757	1764	1661	1810	1704	1547
Q Serve(g_s), s	5.2	4.6	4.8	2.8	0.0	10.5	5.3	8.6	8.8	1.0	3.2	3.6
Cycle Q Clear(g_c), s	5.2	4.6	4.8	2.8	0.0	10.5	5.3	8.6	8.8	1.0	3.2	3.6
Prop In Lane	1.00		0.41	1.00		0.28	1.00		0.67	1.00		0.90
Lane Grp Cap(c), veh/h	207	586	575	107	0	496	209	420	395	61	260	236
V/C Ratio(X)	0.76	0.31	0.32	0.77	0.00	0.69	0.76	0.66	0.67	0.51	0.39	0.43
Avail Cap(c_a), veh/h	733	1155	1133	712	0	1166	872	1167	1099	898	1127	1024
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	14.9	14.9	27.9	0.0	19.4	25.8	20.8	20.9	28.7	23.1	23.2
Incr Delay (d2), s/veh	5.8	0.3	0.3	11.0	0.0	1.8	5.7	1.3	1.5	6.5	0.8	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.3	2.3	1.7	0.0	5.3	2.9	4.3	4.1	0.6	1.6	1.6
LnGrp Delay(d),s/veh	31.7	15.2	15.2	39.0	0.0	21.2	31.5	22.1	22.4	35.2	23.9	24.3
LnGrp LOS	C	B	B	D		C	C	C	C	D	C	C
Approach Vol, veh/h		521			426			702			233	
Approach Delay, s/veh		20.2			24.6			24.4			25.6	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	19.9	8.2	24.8	12.7	14.7	11.6	21.5
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	40.0	30.0	40.0	25.0	40.0
Max Q Clear Time (g_c+I1), s	3.0	10.8	4.8	6.8	7.3	5.6	7.2	12.5
Green Ext Time (p_c), s	0.0	3.6	0.2	4.7	0.4	3.6	0.4	4.5

Intersection Summary	
HCM 2010 Ctrl Delay	23.4
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	239	239	2	0	233	25	0	0	0	6	0	118
Future Vol, veh/h	239	239	2	0	233	25	0	0	0	6	0	118
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	-	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	0	5	0	0	0	0	0	0	4
Mvmt Flow	266	266	2	0	259	28	0	0	0	7	0	131

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	287	0	0	268	0	0	1136	1085	267	1071	1072	273
Stage 1	-	-	-	-	-	-	798	798	-	273	273	-
Stage 2	-	-	-	-	-	-	338	287	-	798	799	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.336
Pot Cap-1 Maneuver	1275	-	-	1307	-	-	181	218	777	200	222	761
Stage 1	-	-	-	-	-	-	382	401	-	737	688	-
Stage 2	-	-	-	-	-	-	681	678	-	382	401	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1275	-	-	1307	-	-	126	173	777	168	176	761
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	173	-	168	176	-
Stage 1	-	-	-	-	-	-	302	317	-	583	688	-
Stage 2	-	-	-	-	-	-	564	678	-	302	317	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.3	0	0	11.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1275	-	-	1307	-	-	168	761
HCM Lane V/C Ratio	-	0.208	-	-	-	-	-	0.04	0.172
HCM Control Delay (s)	0	8.6	-	-	0	-	-	27.3	10.7
HCM Lane LOS	A	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	-	0.8	-	-	0	-	-	0.1	0.6

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	234	11	16	87	26	174
Future Vol, veh/h	234	11	16	87	26	174
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	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	0	0	0	0	8
Mvmt Flow	296	14	20	110	33	220

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	184	33	33	0	-	0
Stage 1	33	-	-	-	-	-
Stage 2	151	-	-	-	-	-
Critical Hdwy	6.42	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	805	1046	1592	-	-	-
Stage 1	989	-	-	-	-	-
Stage 2	877	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	795	1046	1592	-	-	-
Mov Cap-2 Maneuver	795	-	-	-	-	-
Stage 1	989	-	-	-	-	-
Stage 2	866	-	-	-	-	-

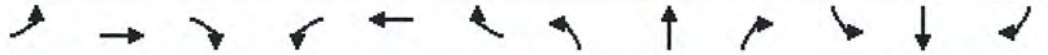
Approach	EB	NB	SB
HCM Control Delay, s	12.3	1.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1592	-	804	-	-
HCM Lane V/C Ratio	0.013	-	0.386	-	-
HCM Control Delay (s)	7.3	0	12.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.8	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	458	19	85	218	70	22	65	44	114	126	6
Future Volume (veh/h)	2	458	19	85	218	70	22	65	44	114	126	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1878	1900	1900	1889	1900	1900	1878	1900	1863	1900	1900
Adj Flow Rate, veh/h	2	503	21	93	240	77	24	71	48	125	138	7
Adj No. of Lanes	0	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	0	0	0	0	2	2	2	0	0
Cap, veh/h	86	1457	61	314	754	251	42	311	193	171	770	39
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.02	0.15	0.15	0.10	0.22	0.22
Sat Flow, veh/h	2	3415	142	444	1766	588	1810	2114	1313	1774	3497	176
Grp Volume(v), veh/h	277	0	249	198	0	212	24	59	60	125	71	74
Grp Sat Flow(s),veh/h/ln	1876	0	1684	1183	0	1615	1810	1784	1643	1774	1805	1869
Q Serve(g_s), s	0.0	0.0	4.2	1.3	0.0	3.7	0.6	1.2	1.4	2.9	1.4	1.4
Cycle Q Clear(g_c), s	4.2	0.0	4.2	5.6	0.0	3.7	0.6	1.2	1.4	2.9	1.4	1.4
Prop In Lane	0.01		0.08	0.47		0.36	1.00		0.80	1.00		0.09
Lane Grp Cap(c), veh/h	886	0	718	629	0	689	42	262	241	171	397	411
V/C Ratio(X)	0.31	0.00	0.35	0.32	0.00	0.31	0.57	0.22	0.25	0.73	0.18	0.18
Avail Cap(c_a), veh/h	1409	0	1190	975	0	1142	853	1261	1161	836	1276	1321
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.2	0.0	8.2	8.1	0.0	8.0	20.5	16.0	16.0	18.6	13.4	13.4
Incr Delay (d2), s/veh	0.4	0.0	0.6	0.6	0.0	0.5	16.2	0.9	1.1	8.2	0.5	0.4
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	2.3	0.0	2.1	1.7	0.0	1.7	0.5	0.7	0.7	1.8	0.7	0.8
LnGrp Delay(d),s/veh	8.6	0.0	8.8	8.8	0.0	8.6	36.7	16.9	17.2	26.8	13.9	13.9
LnGrp LOS	A		A	A		A	D	B	B	C	B	B
Approach Vol, veh/h		526			410			143			270	
Approach Delay, s/veh		8.7			8.7			20.3			19.9	
Approach LOS		A			A			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.1	5.0	14.3		23.1	8.1	11.2
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		30.0	20.0	30.0		30.0	20.0	30.0
Max Q Clear Time (g_c+I1), s		6.2	2.6	3.4		7.6	4.9	3.4
Green Ext Time (p_c), s		11.0	0.0	2.8		10.6	0.4	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	356	184	45	209	12	82	60	12	40	121	6
Future Volume (veh/h)	19	356	184	45	209	12	82	60	12	40	121	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	391	202	49	230	13	90	66	13	44	133	7
Adj No. of Lanes	1	1	1	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	37	629	534	73	1220	69	121	235	46	68	234	198
Arrive On Green	0.02	0.33	0.33	0.04	0.35	0.35	0.07	0.15	0.15	0.04	0.12	0.12
Sat Flow, veh/h	1810	1900	1615	1810	3475	195	1810	1543	304	1810	1900	1611
Grp Volume(v), veh/h	21	391	202	49	119	124	90	0	79	44	133	7
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1805	1866	1810	0	1846	1810	1900	1611
Q Serve(g_s), s	0.5	7.9	4.4	1.2	2.1	2.1	2.2	0.0	1.7	1.1	3.0	0.2
Cycle Q Clear(g_c), s	0.5	7.9	4.4	1.2	2.1	2.1	2.2	0.0	1.7	1.1	3.0	0.2
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	37	629	534	73	634	655	121	0	282	68	234	198
V/C Ratio(X)	0.57	0.62	0.38	0.67	0.19	0.19	0.74	0.00	0.28	0.65	0.57	0.04
Avail Cap(c_a), veh/h	992	1041	885	793	989	1022	793	0	1133	793	1166	989
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	12.9	11.7	21.6	10.3	10.3	20.9	0.0	17.1	21.7	18.9	17.6
Incr Delay (d2), s/veh	17.9	1.4	0.6	13.9	0.2	0.2	11.9	0.0	0.8	13.9	3.1	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	0.4	4.4	2.0	0.9	1.1	1.1	1.5	0.0	0.9	0.8	1.8	0.1
LnGrp Delay(d),s/veh	40.0	14.3	12.3	35.5	10.5	10.5	32.8	0.0	17.9	35.5	21.9	17.7
LnGrp LOS	D	B	B	D	B	B	C		B	D	C	B
Approach Vol, veh/h		614			292			169			184	
Approach Delay, s/veh		14.5			14.7			25.8			25.0	
Approach LOS		B			B			C			C	

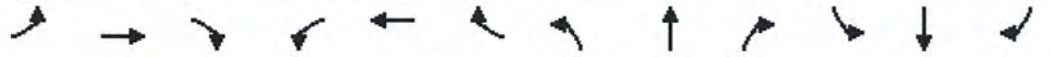
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	21.1	7.1	11.6	4.9	22.0	5.7	13.0
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	20.0	25.0	20.0	28.0	25.0	25.0	20.0	28.0
Max Q Clear Time (g_c+I1), s	3.2	9.9	4.2	5.0	2.5	4.1	3.1	3.7
Green Ext Time (p_c), s	0.1	5.2	0.3	1.6	0.0	6.0	0.1	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	17.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	510	67	103	328	57	25	101	91	45	161	24
Future Volume (veh/h)	18	510	67	103	328	57	25	101	91	45	161	24
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1883	1900	1900	1884	1900	1900	1891	1900	1900	1887	1900
Adj Flow Rate, veh/h	19	548	72	111	353	61	27	109	98	48	173	26
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	0	1	1	1	1	1	1	1	1
Cap, veh/h	489	698	92	369	743	128	106	202	163	138	308	42
Arrive On Green	0.01	0.43	0.43	0.06	0.47	0.47	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1810	1631	214	1810	1566	271	107	893	720	221	1358	186
Grp Volume(v), veh/h	19	0	620	111	0	414	234	0	0	247	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1846	1810	0	1836	1720	0	0	1765	0	0
Q Serve(g_s), s	0.3	0.0	14.2	1.6	0.0	7.5	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	14.2	1.6	0.0	7.5	5.8	0.0	0.0	5.8	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.15	0.12		0.42	0.19		0.11
Lane Grp Cap(c), veh/h	489	0	789	369	0	871	472	0	0	487	0	0
V/C Ratio(X)	0.04	0.00	0.79	0.30	0.00	0.48	0.50	0.00	0.00	0.51	0.00	0.00
Avail Cap(c_a), veh/h	1145	0	901	940	0	897	905	0	0	923	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.0	0.0	12.1	9.2	0.0	8.8	16.9	0.0	0.0	17.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	4.5	0.5	0.0	0.6	1.2	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	8.1	0.8	0.0	3.9	2.9	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	8.1	0.0	16.7	9.6	0.0	9.3	18.1	0.0	0.0	18.1	0.0	0.0
LnGrp LOS	A		B	A		A	B			B		
Approach Vol, veh/h		639			525			234			247	
Approach Delay, s/veh		16.4			9.4			18.1			18.1	
Approach LOS		B			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.0	26.0		16.1	4.7	28.3		16.1
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	18.5	24.0		24.0	18.5	24.0		24.0
Max Q Clear Time (g_c+I1), s	3.6	16.2		7.8	2.3	9.5		7.8
Green Ext Time (p_c), s	0.2	4.8		3.7	0.0	7.6		3.7

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	270	132	28	189	29	57	97	16	14	139	6
Future Volume (veh/h)	12	270	132	28	189	29	57	97	16	14	139	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1827	1884	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	13	284	139	29	199	31	60	102	17	15	146	6
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
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, %	0	0	0	4	1	1	0	0	0	0	0	0
Cap, veh/h	25	455	223	49	624	97	196	186	26	126	343	310
Arrive On Green	0.01	0.38	0.38	0.03	0.39	0.39	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1810	1206	590	1740	1592	248	327	972	136	84	1786	1615
Grp Volume(v), veh/h	13	0	423	29	0	230	179	0	0	161	0	6
Grp Sat Flow(s),veh/h/ln	1810	0	1796	1740	0	1840	1434	0	0	1871	0	1615
Q Serve(g_s), s	0.3	0.0	6.9	0.6	0.0	3.1	1.8	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.3	0.0	6.9	0.6	0.0	3.1	4.5	0.0	0.0	2.7	0.0	0.1
Prop In Lane	1.00		0.33	1.00		0.13	0.34		0.09	0.09		1.00
Lane Grp Cap(c), veh/h	25	0	678	49	0	721	409	0	0	468	0	310
V/C Ratio(X)	0.53	0.00	0.62	0.60	0.00	0.32	0.44	0.00	0.00	0.34	0.00	0.02
Avail Cap(c_a), veh/h	754	0	1247	1208	0	1227	812	0	0	928	0	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.6	0.0	9.1	17.3	0.0	7.6	13.5	0.0	0.0	12.8	0.0	11.8
Incr Delay (d2), s/veh	23.0	0.0	1.3	15.5	0.0	0.4	1.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	3.7	0.5	0.0	1.6	1.8	0.0	0.0	1.5	0.0	0.1
LnGrp Delay(d),s/veh	40.7	0.0	10.5	32.8	0.0	8.0	14.5	0.0	0.0	13.5	0.0	11.8
LnGrp LOS	D		B	C		A	B			B		B
Approach Vol, veh/h		436			259			179			167	
Approach Delay, s/veh		11.4			10.7			14.5			13.4	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	19.1		11.9	4.5	19.6		11.9
Change Period (Y+Rc), s	4.0	5.5		5.0	4.0	5.5		5.0
Max Green Setting (Gmax), s	25.0	25.0		16.0	15.0	24.0		16.0
Max Q Clear Time (g_c+I1), s	2.6	8.9		4.7	2.3	5.1		6.5
Green Ext Time (p_c), s	0.1	4.7		2.0	0.0	5.0		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	74	160	12	97	210
Future Vol, veh/h	22	74	160	12	97	210
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	91	91	91	91	91	91
Heavy Vehicles, %	0	2	1	0	1	1
Mvmt Flow	24	81	176	13	107	231

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	626	182	0	0	189	0
Stage 1	182	-	-	-	-	-
Stage 2	444	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.209	-
Pot Cap-1 Maneuver	451	861	-	-	1391	-
Stage 1	854	-	-	-	-	-
Stage 2	651	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	411	861	-	-	1391	-
Mov Cap-2 Maneuver	411	-	-	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	594	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	688	1391	-
HCM Lane V/C Ratio	-	-	0.153	0.077	-
HCM Control Delay (s)	-	-	11.2	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

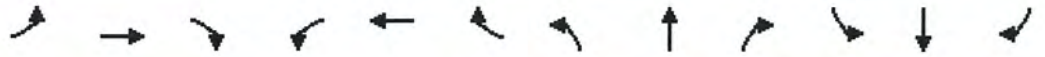
Intersection	
Int Delay, s/veh	49.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	369	58	80	172	0	25	0	197	0	244	121
Future Vol, veh/h	0	369	58	80	172	0	25	0	197	0	244	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	3
Mvmt Flow	0	397	62	86	185	0	27	0	212	0	262	130

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	459	0	0	981	785	428	891	816	185
Stage 1	-	-	-	-	-	-	428	428	-	357	357	-
Stage 2	-	-	-	-	-	-	553	357	-	534	459	-
Critical Hdwy	-	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.327
Pot Cap-1 Maneuver	0	-	-	1113	-	0	231	327	631	265	314	855
Stage 1	0	-	-	-	-	0	609	588	-	665	632	-
Stage 2	0	-	-	-	-	0	521	632	-	534	570	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1113	-	-	38	299	631	164	287	855
Mov Cap-2 Maneuver	-	-	-	-	-	-	38	299	-	164	287	-
Stage 1	-	-	-	-	-	-	609	588	-	665	578	-
Stage 2	-	-	-	-	-	-	220	578	-	355	570	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.7	116.7	99.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	229	-	-	1113	-	368
HCM Lane V/C Ratio	1.042	-	-	0.077	-	1.067
HCM Control Delay (s)	116.7	-	-	8.5	0	99.9
HCM Lane LOS	F	-	-	A	A	F
HCM 95th %tile Q(veh)	10.1	-	-	0.3	-	13.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	369	58	80	172	0	25	0	197	0	244	121
Future Volume (vph)	0	369	58	80	172	0	25	0	197	0	244	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.5		4.5		4.5	4.5
Lane Util. Factor		0.95			1.00		1.00		1.00		1.00	1.00
Frpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Frt		0.98			1.00		1.00		0.85		1.00	0.85
Flt Protected		1.00			0.98		0.95		1.00		1.00	1.00
Satd. Flow (prot)		3507			1870		1805		1615		1900	1568
Flt Permitted		1.00			0.47		0.95		1.00		1.00	1.00
Satd. Flow (perm)		3507			900		1805		1615		1900	1568
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	397	62	86	185	0	27	0	212	0	262	130
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	194	0	0	90
Lane Group Flow (vph)	0	449	0	0	271	0	27	0	18	0	262	40
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Turn Type		NA		Perm	NA		Prot		Prot		NA	Perm
Protected Phases		18 3 8			14 4!		15		15		6!	
Permitted Phases				14 4!								6
Actuated Green, G (s)		35.0			48.3		10.5		10.5		37.5	37.5
Effective Green, g (s)		35.0			48.3		10.5		10.5		37.5	37.5
Actuated g/C Ratio		0.29			0.40		0.09		0.09		0.31	0.31
Clearance Time (s)							4.5		4.5		4.5	4.5
Vehicle Extension (s)							3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1006			356		155		138		584	481
v/s Ratio Prot		0.13					c0.01		0.01		c0.14	
v/s Ratio Perm					c0.30							0.03
v/c Ratio		0.45			0.76		0.17		0.13		0.45	0.08
Uniform Delay, d1		35.6			31.9		51.7		51.5		33.9	30.0
Progression Factor		1.00			0.41		1.00		1.00		1.00	1.00
Incremental Delay, d2		0.1			7.5		0.5		0.4		2.5	0.3
Delay (s)		35.7			20.5		52.3		52.0		36.4	30.4
Level of Service		D			C		D		D		D	C
Approach Delay (s)		35.7			20.5			52.0			34.4	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	301	67	15	224	7	28	316	11	97	391	0
Future Volume (veh/h)	197	301	67	15	224	7	28	316	11	97	391	0
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1882	1900	1900	1862	1900	1900	1900	1900
Adj Flow Rate, veh/h	219	334	74	17	249	0	31	351	12	108	434	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	0	1	1	0	0	1	1	0	0	0
Cap, veh/h	255	389	567	21	307	282	55	553	19	142	745	0
Arrive On Green	0.35	0.35	0.35	0.17	0.17	0.00	0.03	0.16	0.16	0.08	0.21	0.00
Sat Flow, veh/h	726	1108	1615	120	1756	1615	1810	3490	119	1810	3705	0
Grp Volume(v), veh/h	553	0	74	266	0	0	31	177	186	108	434	0
Grp Sat Flow(s),veh/h/ln	1834	0	1615	1876	0	1615	1810	1769	1841	1810	1805	0
Q Serve(g_s), s	23.6	0.0	2.6	11.5	0.0	0.0	1.4	7.9	7.9	4.9	9.1	0.0
Cycle Q Clear(g_c), s	23.6	0.0	2.6	11.5	0.0	0.0	1.4	7.9	7.9	4.9	9.1	0.0
Prop In Lane	0.40		1.00	0.06		1.00	1.00		0.06	1.00		0.00
Lane Grp Cap(c), veh/h	643	0	567	328	0	282	55	280	292	142	745	0
V/C Ratio(X)	0.86	0.00	0.13	0.81	0.00	0.00	0.56	0.63	0.64	0.76	0.58	0.00
Avail Cap(c_a), veh/h	1088	0	958	668	0	575	644	630	655	644	1285	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.4	0.0	18.6	33.4	0.0	0.0	40.3	33.2	33.2	38.0	30.2	0.0
Incr Delay (d2), s/veh	3.7	0.0	0.1	4.8	0.0	0.0	8.5	1.8	1.7	8.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	0.0	1.2	6.3	0.0	0.0	0.8	4.0	4.2	2.8	4.5	0.0
LnGrp Delay(d),s/veh	29.1	0.0	18.7	38.2	0.0	0.0	48.8	34.9	34.9	46.2	30.4	0.0
LnGrp LOS	C		B	D			D	C	C	D	C	
Approach Vol, veh/h		627			266			394			542	
Approach Delay, s/veh		27.9			38.2			36.0			33.6	
Approach LOS		C			D			D			C	

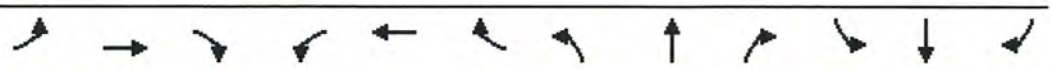
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.6	22.4		19.7	11.6	18.4		34.6
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	3.4	11.1		13.5	6.9	9.9		25.6
Green Ext Time (p_c), s	0.0	3.4		1.3	0.2	3.4		3.9

Intersection Summary	
HCM 2010 Ctrl Delay	32.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	197	301	67	15	224	7	28	316	11	97	391	0
Future Volume (vph)	197	301	67	15	224	7	28	316	11	97	391	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1698	1765	1593		1876	1615	1805	3574	1214	1805	3610	
Flt Permitted	0.95	0.00	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1698	0	1593		1813	1615	1805	3574	1214	1805	3610	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	219	334	74	17	249	8	31	351	12	108	434	0
RTOR Reduction (vph)	0	0	43	0	0	6	0	0	10	0	0	0
Lane Group Flow (vph)	197	356	31	0	266	2	31	351	2	108	434	0
Confl. Bikes (#/hr)			3									
Heavy Vehicles (%)	1%	2%	0%	0%	1%	0%	0%	1%	33%	0%	0%	0%
Turn Type	Prot	NA	custom	Perm	NA	Prot	Prot	NA	Perm	Prot	NA	
Protected Phases	3 16 15!	8 17 15			4!	4!	5!	2!		1!	6!	
Permitted Phases			8 17	4					2			
Actuated Green, G (s)	50.5	50.5	50.5		35.0	35.0	4.7	20.5	20.5	39.5	37.5	
Effective Green, g (s)	50.5	50.5	50.5		35.0	35.0	4.7	20.5	20.5	39.5	37.5	
Actuated g/C Ratio	0.41	0.41	0.41		0.29	0.29	0.04	0.17	0.17	0.32	0.31	
Clearance Time (s)					5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Vehicle Extension (s)					1.9	1.9	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	702	730	659		520	463	69	600	203	584	1109	
v/s Ratio Prot	0.12	c0.20				0.00	0.02	c0.10		0.06	c0.12	
v/s Ratio Perm			0.02		0.15				0.00			
v/c Ratio	0.28	0.49	0.05		0.51	0.00	0.45	0.58	0.01	0.18	0.39	
Uniform Delay, d1	23.7	26.3	21.4		36.4	31.1	57.4	46.8	42.3	29.7	33.3	
Progression Factor	0.32	0.37	0.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.3	0.0		0.4	0.0	4.6	1.5	0.0	0.7	1.0	
Delay (s)	7.8	10.0	0.0		36.7	31.1	62.0	48.3	42.3	30.4	34.3	
Level of Service	A	B	A		D	C	E	D	D	C	C	
Approach Delay (s)		8.1			36.5			49.2			33.5	
Approach LOS		A			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	541	51	88	408	46	54	60	57	64	99	34
Future Volume (veh/h)	39	541	51	88	408	46	54	60	57	64	99	34
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1883	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	50	694	65	113	523	59	69	77	73	82	127	44
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	0	1	1	0	0	0	0	0	0	0	0	0
Cap, veh/h	388	772	72	285	814	92	261	121	115	277	194	67
Arrive On Green	0.04	0.46	0.46	0.07	0.49	0.49	0.05	0.14	0.14	0.06	0.14	0.14
Sat Flow, veh/h	1810	1696	159	1810	1677	189	1810	898	852	1810	1350	468
Grp Volume(v), veh/h	50	0	759	113	0	582	69	0	150	82	0	171
Grp Sat Flow(s),veh/h/ln	1810	0	1855	1810	0	1867	1810	0	1750	1810	0	1817
Q Serve(g_s), s	1.0	0.0	24.9	2.1	0.0	15.4	2.1	0.0	5.3	2.5	0.0	5.9
Cycle Q Clear(g_c), s	1.0	0.0	24.9	2.1	0.0	15.4	2.1	0.0	5.3	2.5	0.0	5.9
Prop In Lane	1.00		0.09	1.00		0.10	1.00		0.49	1.00		0.26
Lane Grp Cap(c), veh/h	388	0	844	285	0	905	261	0	237	277	0	262
V/C Ratio(X)	0.13	0.00	0.90	0.40	0.00	0.64	0.26	0.00	0.63	0.30	0.00	0.65
Avail Cap(c_a), veh/h	871	0	844	714	0	905	726	0	584	726	0	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.2	0.0	16.6	13.6	0.0	12.7	23.2	0.0	27.0	22.9	0.0	26.7
Incr Delay (d2), s/veh	0.1	0.0	14.4	0.9	0.0	3.5	0.5	0.0	4.0	0.6	0.0	3.9
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	0.5	0.0	16.0	1.1	0.0	8.6	1.1	0.0	2.8	1.3	0.0	3.2
LnGrp Delay(d),s/veh	10.4	0.0	31.0	14.5	0.0	16.2	23.7	0.0	30.9	23.5	0.0	30.5
LnGrp LOS	B		C	B		B	C		C	C		C
Approach Vol, veh/h		809			695			219			253	
Approach Delay, s/veh		29.7			15.9			28.6			28.2	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	37.0	8.1	13.9	8.9	35.0	7.5	14.5
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	20.0	30.0	20.0	22.0	20.0	30.0	20.0	22.0
Max Q Clear Time (g_c+I1), s	3.0	17.4	4.5	7.3	4.1	26.9	4.1	7.9
Green Ext Time (p_c), s	0.1	10.0	0.1	2.1	0.2	2.7	0.1	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	24.6
HCM 2010 LOS	C

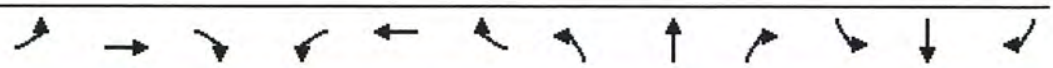
Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	0	63	0	0	0	34	48	0	0	103	31
Future Vol, veh/h	28	0	63	0	0	0	34	48	0	0	103	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	5	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	33	0	73	0	0	0	40	56	0	0	120	36

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	273	273	138	309	291	56	156	0	0	56	0	0
Stage 1	138	138	-	135	135	-	-	-	-	-	-	-
Stage 2	135	135	-	174	156	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	673	637	916	647	623	1016	1436	-	-	1562	-	-
Stage 1	858	786	-	873	789	-	-	-	-	-	-	-
Stage 2	861	789	-	833	772	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	658	619	916	582	605	1016	1436	-	-	1562	-	-
Mov Cap-2 Maneuver	658	619	-	582	605	-	-	-	-	-	-	-
Stage 1	833	786	-	848	766	-	-	-	-	-	-	-
Stage 2	836	766	-	766	772	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	0	3.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1436	-	-	817	-	1562	-	-
HCM Lane V/C Ratio	0.028	-	-	0.13	-	-	-	-
HCM Control Delay (s)	7.6	0	-	10.1	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	-	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	358	216	191	371	53	143	203	126	58	272	74
Future Volume (veh/h)	93	358	216	191	371	53	143	203	126	58	272	74
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1877	1900	1881	1884	1900	1900	1824	1900	1900	1885	1900
Adj Flow Rate, veh/h	109	421	254	225	436	62	168	239	148	68	320	87
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	2	2	1	1	1	0	3	3	0	1	1
Cap, veh/h	143	643	384	272	600	85	213	520	310	90	506	136
Arrive On Green	0.08	0.30	0.30	0.15	0.37	0.37	0.12	0.25	0.25	0.05	0.18	0.18
Sat Flow, veh/h	1810	2149	1284	1792	1614	229	1810	2090	1247	1810	2796	748
Grp Volume(v), veh/h	109	349	326	225	0	498	168	197	190	68	203	204
Grp Sat Flow(s),veh/h/ln	1810	1783	1650	1792	0	1843	1810	1733	1604	1810	1791	1753
Q Serve(g_s), s	4.7	13.6	13.8	9.7	0.0	18.6	7.2	7.7	8.1	3.0	8.4	8.6
Cycle Q Clear(g_c), s	4.7	13.6	13.8	9.7	0.0	18.6	7.2	7.7	8.1	3.0	8.4	8.6
Prop In Lane	1.00		0.78	1.00		0.12	1.00		0.78	1.00		0.43
Lane Grp Cap(c), veh/h	143	533	494	272	0	686	213	431	399	90	324	317
V/C Ratio(X)	0.76	0.65	0.66	0.83	0.00	0.73	0.79	0.46	0.48	0.76	0.63	0.64
Avail Cap(c_a), veh/h	566	892	826	560	0	922	679	867	803	679	896	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	24.4	24.5	32.9	0.0	21.6	34.3	25.4	25.6	37.5	30.2	30.3
Incr Delay (d2), s/veh	8.0	1.4	1.5	6.3	0.0	1.9	6.5	0.6	0.7	12.0	1.7	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	6.9	6.5	5.3	0.0	9.8	4.0	3.7	3.7	1.8	4.3	4.3
LnGrp Delay(d),s/veh	44.1	25.8	26.0	39.1	0.0	23.5	40.8	26.0	26.2	49.5	31.9	32.2
LnGrp LOS	D	C	C	D		C	D	C	C	D	C	C
Approach Vol, veh/h		784			723			555			475	
Approach Delay, s/veh		28.4			28.4			30.6			34.6	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	25.4	16.7	28.4	14.9	20.0	10.8	34.2
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	40.0	30.0	40.0	25.0	40.0
Max Q Clear Time (g_c+I1), s	5.0	10.1	11.7	15.8	9.2	10.6	6.7	20.6
Green Ext Time (p_c), s	0.1	3.9	0.5	8.1	0.4	3.9	0.2	7.4

Intersection Summary	
HCM 2010 Ctrl Delay	30.0
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	218	420	0	0	416	12	0	0	0	18	0	220
Future Vol, veh/h	218	420	0	0	416	12	0	0	0	18	0	220
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	0	0	0	0	0	0	0	33	0	22
Mvmt Flow	276	532	0	0	527	15	0	0	0	23	0	278

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	542	0	0	532	0	0	1757	1626	533	1619	1618	534
Stage 1	-	-	-	-	-	-	1084	1084	-	534	534	-
Stage 2	-	-	-	-	-	-	673	542	-	1085	1084	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.43	6.5	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.43	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.43	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.797	4	3.498
Pot Cap-1 Maneuver	1032	-	-	1046	-	-	67	103	551	70	104	509
Stage 1	-	-	-	-	-	-	265	296	-	478	528	-
Stage 2	-	-	-	-	-	-	448	523	-	229	296	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1032	-	-	1045	-	-	24	75	550	55	76	509
Mov Cap-2 Maneuver	-	-	-	-	-	-	24	75	-	55	76	-
Stage 1	-	-	-	-	-	-	194	217	-	350	528	-
Stage 2	-	-	-	-	-	-	203	523	-	168	217	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0	0	27.1
HCM LOS			A	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1032	-	-	1045	-	-	55	509
HCM Lane V/C Ratio	-	0.267	-	-	-	-	-	0.414	0.547
HCM Control Delay (s)	0	9.8	-	-	0	-	-	110.6	20.3
HCM Lane LOS	A	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	-	1.1	-	-	0	-	-	1.5	3.3

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	297	18	25	57	104	369
Future Vol, veh/h	297	18	25	57	104	369
Conflicting Peds, #/hr	0	0	1	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	0	0	2	0	0
Mvmt Flow	326	20	27	63	114	405

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	233	115	115	0	-	0
Stage 1	115	-	-	-	-	-
Stage 2	118	-	-	-	-	-
Critical Hdwy	6.42	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	755	943	1487	-	-	-
Stage 1	910	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	739	942	1487	-	-	-
Mov Cap-2 Maneuver	739	-	-	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	889	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.9	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1487	-	748	-	-
HCM Lane V/C Ratio	0.018	-	0.463	-	-
HCM Control Delay (s)	7.5	0	13.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	2.5	-	-

YEAR 2030

LEVEL OF SERVICE CALCULATIONS

WITH PROJECT

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	155	7	38	545	139	22	100	71	73	63	5
Future Volume (veh/h)	5	155	7	38	545	139	22	100	71	73	63	5
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1869	1900	1900	1883	1900	1900	1877	1900	1759	1834	1900
Adj Flow Rate, veh/h	5	168	8	41	592	151	24	109	77	79	68	5
Adj No. of Lanes	0	2	0	0	2	0	1	2	0	1	2	0
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, %	1	1	1	0	0	0	0	0	0	8	2	2
Cap, veh/h	97	1500	70	131	1206	299	42	347	226	101	677	49
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.02	0.17	0.17	0.06	0.21	0.21
Sat Flow, veh/h	22	3328	156	90	2676	664	1810	2061	1344	1675	3295	240
Grp Volume(v), veh/h	95	0	86	421	0	363	24	93	93	79	36	37
Grp Sat Flow(s),veh/h/ln	1833	0	1673	1833	0	1596	1810	1783	1622	1675	1743	1792
Q Serve(g_s), s	0.0	0.0	1.3	0.0	0.0	7.1	0.6	2.0	2.2	2.0	0.7	0.7
Cycle Q Clear(g_c), s	1.3	0.0	1.3	6.9	0.0	7.1	0.6	2.0	2.2	2.0	0.7	0.7
Prop In Lane	0.05		0.09	0.10		0.42	1.00		0.83	1.00		0.13
Lane Grp Cap(c), veh/h	913	0	754	917	0	719	42	300	273	101	358	368
V/C Ratio(X)	0.10	0.00	0.11	0.46	0.00	0.50	0.57	0.31	0.34	0.78	0.10	0.10
Avail Cap(c_a), veh/h	1321	0	1150	1340	0	1097	830	1226	1116	768	1198	1232
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.9	0.0	6.9	8.5	0.0	8.5	21.1	15.9	16.0	20.2	14.1	14.1
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.8	0.0	1.2	16.4	1.2	1.6	17.1	0.3	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	0.7	0.0	0.6	3.7	0.0	3.3	0.5	1.1	1.1	1.4	0.4	0.4
LnGrp Delay(d),s/veh	7.0	0.0	7.1	9.2	0.0	9.7	37.5	17.2	17.6	37.3	14.3	14.3
LnGrp LOS	A		A	A		A	D	B	B	D	B	B
Approach Vol, veh/h		181			784			210			152	
Approach Delay, s/veh		7.1			9.5			19.7			26.3	
Approach LOS		A			A			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		24.7	5.0	14.0		24.7	6.6	12.3
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		30.0	20.0	30.0		30.0	20.0	30.0
Max Q Clear Time (g_c+I1), s		3.3	2.6	2.7		9.1	4.0	4.2
Green Ext Time (p_c), s		12.2	0.0	2.8		10.6	0.2	2.7

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	185	41	12	566	35	251	112	26	25	44	13
Future Volume (veh/h)	1	185	41	12	566	35	251	112	26	25	44	13
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1776	1900	1900	1859	1900	1900	1885	1900	1900	1810	1900
Adj Flow Rate, veh/h	1	203	45	13	622	38	276	123	29	27	48	14
Adj No. of Lanes	1	1	1	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	7	0	0	2	2	0	1	1	0	5	0
Cap, veh/h	4	552	502	24	1092	67	363	342	81	46	102	91
Arrive On Green	0.00	0.31	0.31	0.01	0.32	0.32	0.20	0.23	0.23	0.03	0.06	0.06
Sat Flow, veh/h	1810	1776	1615	1810	3381	206	1810	1475	348	1810	1810	1615
Grp Volume(v), veh/h	1	203	45	13	324	336	276	0	152	27	48	14
Grp Sat Flow(s),veh/h/ln	1810	1776	1615	1810	1766	1822	1810	0	1823	1810	1810	1615
Q Serve(g_s), s	0.0	4.2	0.9	0.3	7.3	7.3	6.9	0.0	3.3	0.7	1.2	0.4
Cycle Q Clear(g_c), s	0.0	4.2	0.9	0.3	7.3	7.3	6.9	0.0	3.3	0.7	1.2	0.4
Prop In Lane	1.00		1.00	1.00		0.11	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	4	552	502	24	570	588	363	0	423	46	102	91
V/C Ratio(X)	0.26	0.37	0.09	0.54	0.57	0.57	0.76	0.00	0.36	0.59	0.47	0.15
Avail Cap(c_a), veh/h	948	930	846	758	925	954	758	0	1069	758	1061	947
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	12.8	11.7	23.4	13.4	13.4	18.0	0.0	15.4	23.0	21.8	21.4
Incr Delay (d2), s/veh	46.0	0.6	0.1	24.4	1.3	1.2	4.6	0.0	0.7	16.2	4.7	1.1
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	0.1	2.2	0.4	0.3	3.7	3.8	3.8	0.0	1.7	0.6	0.7	0.2
LnGrp Delay(d),s/veh	69.8	13.4	11.8	47.8	14.7	14.7	22.6	0.0	16.1	39.2	26.5	22.5
LnGrp LOS	E	B	B	D	B	B	C		B	D	C	C
Approach Vol, veh/h		249			673			428			89	
Approach Delay, s/veh		13.3			15.3			20.3			29.8	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	20.8	13.6	8.7	4.1	21.4	5.2	17.1
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	20.6	25.0	20.0	28.0	25.0	25.0	20.0	28.0
Max Q Clear Time (g_c+I1), s	2.3	6.2	8.9	3.2	2.0	9.3	2.7	5.3
Green Ext Time (p_c), s	0.0	6.7	1.0	1.6	0.0	6.1	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	17.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	493	41	30	326	14	66	65	39	88	134	108
Future Volume (veh/h)	60	493	41	30	326	14	66	65	39	88	134	108
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1849	1900	1900	1820	1900	1900	1857	1900	1900	1886	1900
Adj Flow Rate, veh/h	68	560	47	34	370	16	75	74	44	100	152	123
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	3	3	0	4	4	2	2	2	1	1	1
Cap, veh/h	429	686	58	269	676	29	232	216	104	191	236	166
Arrive On Green	0.04	0.41	0.41	0.02	0.39	0.39	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1774	1683	141	1810	1732	75	448	705	341	342	772	544
Grp Volume(v), veh/h	68	0	607	34	0	386	193	0	0	375	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1824	1810	0	1807	1495	0	0	1658	0	0
Q Serve(g_s), s	1.2	0.0	15.6	0.6	0.0	8.8	0.0	0.0	0.0	5.6	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	15.6	0.6	0.0	8.8	4.8	0.0	0.0	10.5	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.04	0.39		0.23	0.27		0.33
Lane Grp Cap(c), veh/h	429	0	743	269	0	705	551	0	0	593	0	0
V/C Ratio(X)	0.16	0.00	0.82	0.13	0.00	0.55	0.35	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	979	0	827	861	0	820	761	0	0	829	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.7	0.0	13.9	11.4	0.0	12.5	14.3	0.0	0.0	16.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	6.3	0.2	0.0	0.9	0.5	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	9.1	0.3	0.0	4.5	2.3	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	9.9	0.0	20.3	11.7	0.0	13.5	14.9	0.0	0.0	17.8	0.0	0.0
LnGrp LOS	A		C	B		B	B			B		
Approach Vol, veh/h		675			420			193			375	
Approach Delay, s/veh		19.2			13.3			14.9			17.8	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	26.6		21.2	6.1	25.7		21.2
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	18.5	24.0		24.0	18.5	24.0		24.0
Max Q Clear Time (g_c+I1), s	12.6	17.6		12.5	3.2	10.8		6.8
Green Ext Time (p_c), s	0.0	3.9		3.8	0.1	6.8		4.7

Intersection Summary	
HCM 2010 Ctrl Delay	16.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	179	37	43	451	48	132	169	31	34	70	8
Future Volume (veh/h)	7	179	37	43	451	48	132	169	31	34	70	8
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1860	1900	1900	1883	1900	1900	1880	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	203	42	49	512	55	150	192	35	39	80	9
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	2	2	0	1	1	1	1	1	0	0	0
Cap, veh/h	15	546	113	72	663	71	259	258	42	210	379	472
Arrive On Green	0.01	0.36	0.36	0.04	0.40	0.40	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1810	1496	309	1810	1672	180	528	881	144	378	1296	1615
Grp Volume(v), veh/h	8	0	245	49	0	567	377	0	0	119	0	9
Grp Sat Flow(s),veh/h/ln	1810	0	1805	1810	0	1851	1553	0	0	1674	0	1615
Q Serve(g_s), s	0.2	0.0	4.8	1.3	0.0	12.8	8.7	0.0	0.0	0.0	0.0	0.2
Cycle Q Clear(g_c), s	0.2	0.0	4.8	1.3	0.0	12.8	10.9	0.0	0.0	2.3	0.0	0.2
Prop In Lane	1.00		0.17	1.00		0.10	0.40		0.09	0.33		1.00
Lane Grp Cap(c), veh/h	15	0	659	72	0	734	559	0	0	589	0	472
V/C Ratio(X)	0.52	0.00	0.37	0.68	0.00	0.77	0.67	0.00	0.00	0.20	0.00	0.02
Avail Cap(c_a), veh/h	567	0	942	944	0	927	625	0	0	655	0	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	11.2	22.7	0.0	12.6	15.9	0.0	0.0	12.8	0.0	12.1
Incr Delay (d2), s/veh	34.5	0.0	0.5	14.6	0.0	3.7	2.9	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.5	0.9	0.0	7.2	5.1	0.0	0.0	1.2	0.0	0.1
LnGrp Delay(d),s/veh	58.1	0.0	11.7	37.3	0.0	16.3	18.9	0.0	0.0	13.0	0.0	12.1
LnGrp LOS	E		B	D		B	B			B		B
Approach Vol, veh/h		253			616			377			128	
Approach Delay, s/veh		13.1			18.0			18.9			13.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.9	23.0		19.0	4.4	24.5		19.0
Change Period (Y+Rc), s	4.0	5.5		5.0	4.0	5.5		5.0
Max Green Setting (Gmax), s	25.6	25.0		16.0	15.0	24.0		16.0
Max Q Clear Time (g_c+I1), s	13.3	6.8		4.3	2.2	14.8		12.9
Green Ext Time (p_c), s	0.1	6.4		3.3	0.0	4.2		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	16.9
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	66	467	1	0	238
Future Vol, veh/h	0	66	467	1	0	238
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	79	79	79	79	79	79
Heavy Vehicles, %	0	0	3	0	0	8
Mvmt Flow	0	84	591	1	0	301

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	592	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	510	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	510	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	510	-
HCM Lane V/C Ratio	-	-	0.164	-
HCM Control Delay (s)	-	-	13.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.6	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	67	401	1	38	200
Future Vol, veh/h	8	67	401	1	38	200
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	-	-	-	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	3	0	0	8
Mvmt Flow	10	85	508	1	48	253

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	857	508	0	0	509	0
Stage 1	508	-	-	-	-	-
Stage 2	349	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	330	569	-	-	1066	-
Stage 1	608	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	315	569	-	-	1066	-
Mov Cap-2 Maneuver	437	-	-	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	687	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	551	1066	-
HCM Lane V/C Ratio	-	-	0.172	0.045	-
HCM Control Delay (s)	-	-	12.9	8.5	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	25	377	1	12	196
Future Vol, veh/h	1	25	377	1	12	196
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	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	3	0	0	8
Mvmt Flow	1	32	477	1	15	248

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	756	478	0	0	478	0
Stage 1	478	-	-	-	-	-
Stage 2	278	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	379	591	-	-	1095	-
Stage 1	628	-	-	-	-	-
Stage 2	774	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	374	591	-	-	1095	-
Mov Cap-2 Maneuver	374	-	-	-	-	-
Stage 1	628	-	-	-	-	-
Stage 2	763	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	578	1095	-
HCM Lane V/C Ratio	-	-	0.057	0.014	-
HCM Control Delay (s)	-	-	11.6	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	118	260	15	57	140
Future Vol, veh/h	11	118	260	15	57	140
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	79	79	79	79	79	79
Heavy Vehicles, %	0	0	3	0	3	5
Mvmt Flow	14	149	329	19	72	177

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	661	339	0	0	348	0
Stage 1	339	-	-	-	-	-
Stage 2	322	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.227	-
Pot Cap-1 Maneuver	431	708	-	-	1205	-
Stage 1	726	-	-	-	-	-
Stage 2	739	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	403	708	-	-	1205	-
Mov Cap-2 Maneuver	403	-	-	-	-	-
Stage 1	726	-	-	-	-	-
Stage 2	690	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	2.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	665	1205	-
HCM Lane V/C Ratio	-	-	0.246	0.06	-
HCM Control Delay (s)	-	-	12.2	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1	0.2	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	65	124	1	0	5
Future Vol, veh/h	7	65	124	1	0	5
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	79	79	79	79	79	79
Heavy Vehicles, %	0	3	0	0	0	0
Mvmt Flow	9	82	157	1	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	158	0	-	0	258	158
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	100	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1434	-	-	-	735	893
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1434	-	-	-	730	893
Mov Cap-2 Maneuver	-	-	-	-	730	-
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	922	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1434	-	-	-	893
HCM Lane V/C Ratio	0.006	-	-	-	0.007
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

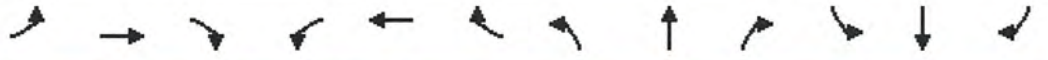
Intersection	
Int Delay, s/veh	13.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	265	49	57	230	0	33	0	268	0	166	37
Future Vol, veh/h	0	265	49	57	230	0	33	0	268	0	166	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	4	0	0	5	0	0	0	2	2	6	0
Mvmt Flow	0	301	56	65	261	0	38	0	305	0	189	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	357	0	0	835	720	329	872	748	261
Stage 1	-	-	-	-	-	-	329	329	-	391	391	-
Stage 2	-	-	-	-	-	-	506	391	-	481	357	-
Critical Hdwy	-	-	-	4.1	-	-	7.1	6.5	6.22	7.12	6.56	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.56	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.318	3.518	4.054	3.3
Pot Cap-1 Maneuver	0	-	-	1213	-	0	289	356	712	271	336	783
Stage 1	0	-	-	-	-	0	688	650	-	633	600	-
Stage 2	0	-	-	-	-	0	552	611	-	566	621	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1213	-	-	137	334	712	148	315	783
Mov Cap-2 Maneuver	-	-	-	-	-	-	137	334	-	148	315	-
Stage 1	-	-	-	-	-	-	688	650	-	633	562	-
Stage 2	-	-	-	-	-	-	325	573	-	324	621	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	27.9	32.3
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	488	-	-	1213	-	354
HCM Lane V/C Ratio	0.701	-	-	0.053	-	0.652
HCM Control Delay (s)	27.9	-	-	8.1	0	32.3
HCM Lane LOS	D	-	-	A	A	D
HCM 95th %tile Q(veh)	5.4	-	-	0.2	-	4.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	265	49	57	230	0	33	0	268	0	166	37
Future Volume (vph)	0	265	49	57	230	0	33	0	268	0	166	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.5		4.5		4.5	4.5
Lane Util. Factor		0.95			1.00		1.00		1.00		1.00	1.00
Frpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Frt		0.98			1.00		1.00		0.85		1.00	0.85
Flt Protected		1.00			0.99		0.95		1.00		1.00	1.00
Satd. Flow (prot)		3496			1881		1805		1615		1900	1568
Flt Permitted		1.00			0.70		0.95		1.00		1.00	1.00
Satd. Flow (perm)		3496			1323		1805		1615		1900	1568
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	285	53	61	247	0	35	0	288	0	178	40
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	259	0	0	28
Lane Group Flow (vph)	0	325	0	0	308	0	35	0	29	0	178	12
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Turn Type		NA		Perm	NA		Prot		Prot		NA	Perm
Protected Phases		18 3 8			14 4!		15		15		6!	
Permitted Phases				14 4!								6
Actuated Green, G (s)		35.0			46.6		12.2		12.2		36.8	36.8
Effective Green, g (s)		35.0			46.6		12.2		12.2		36.8	36.8
Actuated g/C Ratio		0.29			0.38		0.10		0.10		0.30	0.30
Clearance Time (s)							4.5		4.5		4.5	4.5
Vehicle Extension (s)							3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1002			505		180		161		573	472
v/s Ratio Prot		0.09					c0.02		0.02		c0.09	
v/s Ratio Perm					c0.23							0.01
v/c Ratio		0.32			0.61		0.19		0.18		0.31	0.03
Uniform Delay, d1		34.2			30.4		50.4		50.3		32.8	30.0
Progression Factor		1.00			0.17		1.00		1.00		1.00	1.00
Incremental Delay, d2		0.1			1.3		0.5		0.5		1.4	0.1
Delay (s)		34.3			6.3		50.9		50.8		34.2	30.1
Level of Service		C			A		D		D		C	C
Approach Delay (s)		34.3			6.3			50.9			33.5	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	249	256	28	6	224	80	63	529	21	46	131	1
Future Volume (veh/h)	249	256	28	6	224	80	63	529	21	46	131	1
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1864	1900	1900	1882	1900	1900	1827	1900
Adj Flow Rate, veh/h	293	301	33	7	264	0	74	622	25	54	154	1
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	1	1	0	2	2	0	0	1	1	0	4	4
Cap, veh/h	329	338	579	8	315	280	98	767	31	71	722	5
Arrive On Green	0.36	0.36	0.36	0.17	0.17	0.00	0.05	0.22	0.22	0.04	0.20	0.20
Sat Flow, veh/h	906	930	1593	48	1813	1615	1810	3504	141	1810	3536	23
Grp Volume(v), veh/h	594	0	33	271	0	0	74	317	330	54	76	79
Grp Sat Flow(s),veh/h/ln	1836	0	1593	1861	0	1615	1810	1788	1857	1810	1736	1823
Q Serve(g_s), s	29.8	0.0	1.3	13.8	0.0	0.0	3.9	16.5	16.5	2.9	3.5	3.5
Cycle Q Clear(g_c), s	29.8	0.0	1.3	13.8	0.0	0.0	3.9	16.5	16.5	2.9	3.5	3.5
Prop In Lane	0.49		1.00	0.03		1.00	1.00		0.08	1.00		0.01
Lane Grp Cap(c), veh/h	668	0	579	323	0	280	98	391	407	71	355	372
V/C Ratio(X)	0.89	0.00	0.06	0.84	0.00	0.00	0.76	0.81	0.81	0.76	0.21	0.21
Avail Cap(c_a), veh/h	938	0	814	571	0	495	555	548	569	555	532	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	0.0	20.2	39.1	0.0	0.0	45.7	36.3	36.3	46.6	32.4	32.4
Incr Delay (d2), s/veh	8.0	0.0	0.0	5.8	0.0	0.0	11.2	5.4	5.3	15.1	0.1	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	16.5	0.0	0.6	7.6	0.0	0.0	2.3	8.7	9.0	1.7	1.7	1.8
LnGrp Delay(d),s/veh	37.2	0.0	20.3	44.9	0.0	0.0	56.9	41.7	41.6	61.7	32.5	32.5
LnGrp LOS	D		C	D			E	D	D	E	C	C
Approach Vol, veh/h		627			271			721			209	
Approach Delay, s/veh		36.3			44.9			43.2			40.0	
Approach LOS		D			D			D			D	

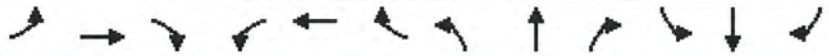
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.3	25.0		22.0	8.8	26.4		40.6
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	5.9	5.5		15.8	4.9	18.5		31.8
Green Ext Time (p_c), s	0.2	3.7		1.2	0.1	2.9		3.8

Intersection Summary	
HCM 2010 Ctrl Delay	40.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	249	256	28	6	224	80	63	529	21	46	131	1
Future Volume (vph)	249	256	28	6	224	80	63	529	21	46	131	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1698	1763	1593		1879	1615	1805	3574	1214	1805	3606	
Flt Permitted	0.95	0.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1698	0	1593		1861	1615	1805	3574	1214	1805	3606	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	277	284	31	7	249	89	70	588	23	51	146	1
RTOR Reduction (vph)	0	0	18	0	0	63	0	0	19	0	0	0
Lane Group Flow (vph)	249	312	13	0	256	26	70	588	4	51	147	0
Confl. Bikes (#/hr)			3									
Heavy Vehicles (%)	1%	2%	0%	0%	1%	0%	0%	1%	33%	0%	0%	0%
Turn Type	Prot	NA	custom	Perm	NA	Prot	Prot	NA	Perm	Prot	NA	
Protected Phases	3 16 15!	8 17 15			4!	4!	5!	2!		1!	6!	
Permitted Phases			8 17	4					2			
Actuated Green, G (s)	52.2	52.2	52.2		35.0	35.0	6.4	19.5	19.5	37.8	36.8	
Effective Green, g (s)	52.2	52.2	52.2		35.0	35.0	6.4	19.5	19.5	37.8	36.8	
Actuated g/C Ratio	0.43	0.43	0.43		0.29	0.29	0.05	0.16	0.16	0.31	0.30	
Clearance Time (s)					5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Vehicle Extension (s)					1.9	1.9	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	726	754	681		533	463	94	571	194	559	1087	
v/s Ratio Prot	0.15	c0.18				0.02	0.04	c0.16		0.03	c0.04	
v/s Ratio Perm			0.01		c0.14				0.00			
v/c Ratio	0.34	0.41	0.02		0.48	0.06	0.74	1.03	0.02	0.09	0.14	
Uniform Delay, d1	23.4	24.3	20.1		36.0	31.5	57.0	51.2	43.2	29.9	31.0	
Progression Factor	0.49	0.51	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.3	0.0		0.2	0.0	27.0	45.5	0.0	0.3	0.3	
Delay (s)	11.8	12.7	20.1		36.2	31.5	84.0	96.8	43.2	30.2	31.3	
Level of Service	B	B	C		D	C	F	F	D	C	C	
Approach Delay (s)		12.7			35.0			93.6			31.0	
Approach LOS		B			D			F			C	

Intersection Summary			
HCM 2000 Control Delay	49.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	416	9	66	481	62	66	99	175	213	50	37
Future Volume (veh/h)	18	416	9	66	481	62	66	99	175	213	50	37
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.99	0.93		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1846	1900	1845	1839	1900	1900	1900	1845	1863	1900	1900
Adj Flow Rate, veh/h	22	501	11	80	580	75	80	119	211	257	60	45
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	0	3	3	3	3	3	0	0	3	2	0	0
Cap, veh/h	237	808	18	351	760	98	385	347	278	448	264	198
Arrive On Green	0.01	0.45	0.45	0.04	0.48	0.48	0.05	0.18	0.18	0.14	0.27	0.27
Sat Flow, veh/h	1810	1797	39	1757	1594	206	1810	1900	1521	1774	981	736
Grp Volume(v), veh/h	22	0	512	80	0	655	80	119	211	257	0	105
Grp Sat Flow(s),veh/h/ln	1810	0	1837	1757	0	1800	1810	1900	1521	1774	0	1717
Q Serve(g_s), s	0.7	0.0	21.3	2.4	0.0	30.0	3.6	5.5	13.2	11.2	0.0	4.8
Cycle Q Clear(g_c), s	0.7	0.0	21.3	2.4	0.0	30.0	3.6	5.5	13.2	11.2	0.0	4.8
Prop In Lane	1.00		0.02	1.00		0.11	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	237	0	825	351	0	858	385	347	278	448	0	463
V/C Ratio(X)	0.09	0.00	0.62	0.23	0.00	0.76	0.21	0.34	0.76	0.57	0.00	0.23
Avail Cap(c_a), veh/h	573	0	825	805	0	858	655	607	486	647	0	463
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.4	0.0	21.1	16.1	0.0	21.6	30.8	35.7	38.8	25.9	0.0	28.5
Incr Delay (d2), s/veh	0.2	0.0	3.5	0.3	0.0	6.4	0.3	1.2	8.8	1.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	11.6	1.2	0.0	16.3	1.8	3.0	6.2	5.6	0.0	2.3
LnGrp Delay(d),s/veh	18.6	0.0	24.5	16.4	0.0	28.0	31.1	36.9	47.6	27.0	0.0	29.0
LnGrp LOS	B		C	B		C	C	D	D	C		C
Approach Vol, veh/h		534			735			410			362	
Approach Delay, s/veh		24.3			26.7			41.3			27.6	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	52.7	18.3	23.3	8.6	50.0	9.6	32.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	20.0	30.0	25.0	32.0	30.0	45.0	20.0	25.0
Max Q Clear Time (g_c+I1), s	2.7	32.0	13.2	15.2	4.4	23.3	5.6	6.8
Green Ext Time (p_c), s	0.0	0.0	0.6	2.9	0.2	13.6	0.1	3.7

Intersection Summary	
HCM 2010 Ctrl Delay	29.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	0	0	254	120	4
Future Vol, veh/h	19	0	0	254	120	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, %	0	0	0	4	0	0
Mvmt Flow	21	0	0	276	130	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	409	133	135	0	-	0
Stage 1	133	-	-	-	-	-
Stage 2	276	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	602	922	1462	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	602	922	1462	-	-	-
Mov Cap-2 Maneuver	602	-	-	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	775	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1462	-	602	-	-
HCM Lane V/C Ratio	-	-	0.034	-	-
HCM Control Delay (s)	0	-	11.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	3	1	225	110	10
Future Vol, veh/h	29	3	1	225	110	10
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, %	0	0	0	4	0	0
Mvmt Flow	32	3	1	245	120	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	372	125	130	0	-	0
Stage 1	125	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	633	931	1468	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	632	931	1468	-	-	-
Mov Cap-2 Maneuver	632	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	798	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1468	-	652	-	-
HCM Lane V/C Ratio	0.001	-	0.053	-	-
HCM Control Delay (s)	7.5	0	10.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	3	1	191	103	10
Future Vol, veh/h	35	3	1	191	103	10
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, %	0	0	0	4	0	0
Mvmt Flow	38	3	1	208	112	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	327	117	123	0	-	0
Stage 1	117	-	-	-	-	-
Stage 2	210	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	671	941	1477	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	830	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	670	941	1477	-	-	-
Mov Cap-2 Maneuver	670	-	-	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	829	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1477	-	686	-	-
HCM Lane V/C Ratio	0.001	-	0.06	-	-
HCM Control Delay (s)	7.4	0	10.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	12	4	180	102	4
Future Vol, veh/h	12	12	4	180	102	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, %	0	0	0	4	0	0
Mvmt Flow	13	13	4	196	111	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	317	113	115	0	-	0
Stage 1	113	-	-	-	-	-
Stage 2	204	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	680	945	1487	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	678	945	1487	-	-	-
Mov Cap-2 Maneuver	678	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	832	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1487	-	790	-	-
HCM Lane V/C Ratio	0.003	-	0.033	-	-
HCM Control Delay (s)	7.4	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

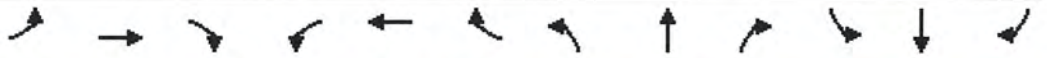
Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	95	0	16	0	0	0	68	86	0	0	33	82
Future Vol, veh/h	95	0	16	0	0	0	68	86	0	0	33	82
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	4	0	0	0	0	0	2	0	0	0	0	0
Mvmt Flow	116	0	20	0	0	0	83	105	0	0	40	100

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	361	361	90	371	411	105	140	0	0	105	0	0
Stage 1	90	90	-	271	271	-	-	-	-	-	-	-
Stage 2	271	271	-	100	140	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4	3.3	3.5	4	3.3	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	591	569	973	589	534	955	1443	-	-	1499	-	-
Stage 1	912	824	-	739	689	-	-	-	-	-	-	-
Stage 2	730	689	-	911	785	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	563	534	973	550	501	955	1443	-	-	1499	-	-
Mov Cap-2 Maneuver	563	534	-	550	501	-	-	-	-	-	-	-
Stage 1	856	824	-	694	647	-	-	-	-	-	-	-
Stage 2	685	647	-	893	785	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	0	3.4	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1443	-	-	599	-	1499	-	-
HCM Lane V/C Ratio	0.057	-	-	0.226	-	-	-	-
HCM Control Delay (s)	7.6	0	-	12.8	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.9	-	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	302	75	76	246	89	152	339	165	29	103	87
Future Volume (veh/h)	162	302	75	76	246	89	152	339	165	29	103	87
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1838	1900	1810	1849	1900	1845	1856	1900	1900	1794	1900
Adj Flow Rate, veh/h	174	325	81	82	265	96	163	365	177	31	111	94
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	3	3	5	3	3	3	3	3	0	5	5
Cap, veh/h	225	987	242	107	376	136	212	548	262	60	272	212
Arrive On Green	0.13	0.35	0.35	0.06	0.29	0.29	0.12	0.24	0.24	0.03	0.15	0.15
Sat Flow, veh/h	1774	2780	683	1723	1297	470	1757	2318	1107	1810	1826	1421
Grp Volume(v), veh/h	174	202	204	82	0	361	163	276	266	31	103	102
Grp Sat Flow(s),veh/h/ln	1774	1746	1717	1723	0	1767	1757	1764	1661	1810	1704	1543
Q Serve(g_s), s	6.1	5.4	5.5	3.0	0.0	11.6	5.7	9.0	9.3	1.1	3.5	3.8
Cycle Q Clear(g_c), s	6.1	5.4	5.5	3.0	0.0	11.6	5.7	9.0	9.3	1.1	3.5	3.8
Prop In Lane	1.00		0.40	1.00		0.27	1.00		0.67	1.00		0.92
Lane Grp Cap(c), veh/h	225	620	610	107	0	513	212	417	393	60	254	230
V/C Ratio(X)	0.77	0.33	0.33	0.77	0.00	0.70	0.77	0.66	0.68	0.52	0.41	0.44
Avail Cap(c_a), veh/h	695	1095	1077	676	0	1108	826	1106	1042	851	1069	968
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	15.0	15.1	29.5	0.0	20.2	27.2	22.0	22.1	30.3	24.6	24.7
Incr Delay (d2), s/veh	5.6	0.3	0.3	11.0	0.0	1.8	5.8	1.3	1.5	6.7	0.9	1.1
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	3.3	2.6	2.7	1.7	0.0	5.9	3.1	4.5	4.4	0.6	1.7	1.7
LnGrp Delay(d),s/veh	32.6	15.3	15.4	40.4	0.0	22.0	33.0	23.4	23.7	37.1	25.5	25.9
LnGrp LOS	C	B	B	D		C	C	C	C	D	C	C
Approach Vol, veh/h		580			443			705			236	
Approach Delay, s/veh		20.5			25.4			25.7			27.2	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	20.6	8.4	27.1	13.2	15.0	12.6	23.0
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	40.0	30.0	40.0	25.0	40.0
Max Q Clear Time (g_c+I1), s	3.1	11.3	5.0	7.5	7.7	5.8	8.1	13.6
Green Ext Time (p_c), s	0.0	3.6	0.2	5.1	0.4	3.7	0.4	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	24.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	256	257	2	0	245	25	0	0	0	6	0	121
Future Vol, veh/h	256	257	2	0	245	25	0	0	0	6	0	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	-	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	0	5	0	0	0	0	0	0	4
Mvmt Flow	284	286	2	0	272	28	0	0	0	7	0	134

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	300	0	0	288	0	0	1209	1156	287	1142	1143	286
Stage 1	-	-	-	-	-	-	856	856	-	286	286	-
Stage 2	-	-	-	-	-	-	353	300	-	856	857	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.336
Pot Cap-1 Maneuver	1261	-	-	1286	-	-	161	198	757	179	202	748
Stage 1	-	-	-	-	-	-	355	377	-	726	679	-
Stage 2	-	-	-	-	-	-	668	669	-	355	377	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1261	-	-	1286	-	-	109	153	757	148	157	748
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	153	-	148	157	-
Stage 1	-	-	-	-	-	-	275	292	-	562	679	-
Stage 2	-	-	-	-	-	-	548	669	-	275	292	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.3	0	0	11.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1261	-	-	1286	-	-	148	748
HCM Lane V/C Ratio	-	0.226	-	-	-	-	-	0.045	0.18
HCM Control Delay (s)	0	8.7	-	-	0	-	-	30.5	10.9
HCM Lane LOS	A	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	-	0.9	-	-	0	-	-	0.1	0.7

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	252	11	16	87	26	186
Future Vol, veh/h	252	11	16	87	26	186
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	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	0	0	0	0	8
Mvmt Flow	319	14	20	110	33	235

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	184	33	33	0	-	0
Stage 1	33	-	-	-	-	-
Stage 2	151	-	-	-	-	-
Critical Hdwy	6.42	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	805	1046	1592	-	-	-
Stage 1	989	-	-	-	-	-
Stage 2	877	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	795	1046	1592	-	-	-
Mov Cap-2 Maneuver	795	-	-	-	-	-
Stage 1	989	-	-	-	-	-
Stage 2	866	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.6	1.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1592	-	803	-	-
HCM Lane V/C Ratio	0.013	-	0.415	-	-
HCM Control Delay (s)	7.3	0	12.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	2.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	469	19	85	225	74	22	88	44	120	151	6
Future Volume (veh/h)	2	469	19	85	225	74	22	88	44	120	151	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1878	1900	1900	1889	1900	1900	1875	1900	1863	1900	1900
Adj Flow Rate, veh/h	2	515	21	93	247	81	24	97	48	132	166	7
Adj No. of Lanes	0	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	0	0	0	0	2	2	2	0	0
Cap, veh/h	82	1447	59	299	743	253	42	380	177	181	847	36
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.02	0.16	0.16	0.10	0.24	0.24
Sat Flow, veh/h	2	3419	139	429	1756	598	1810	2359	1100	1774	3530	148
Grp Volume(v), veh/h	283	0	255	203	0	218	24	72	73	132	84	89
Grp Sat Flow(s),veh/h/ln	1876	0	1684	1170	0	1613	1810	1781	1678	1774	1805	1874
Q Serve(g_s), s	0.0	0.0	4.6	1.7	0.0	4.0	0.6	1.6	1.7	3.2	1.7	1.7
Cycle Q Clear(g_c), s	4.6	0.0	4.6	6.2	0.0	4.0	0.6	1.6	1.7	3.2	1.7	1.7
Prop In Lane	0.01		0.08	0.46		0.37	1.00		0.66	1.00		0.08
Lane Grp Cap(c), veh/h	875	0	713	613	0	683	42	287	270	181	433	450
V/C Ratio(X)	0.32	0.00	0.36	0.33	0.00	0.32	0.58	0.25	0.27	0.73	0.20	0.20
Avail Cap(c_a), veh/h	1340	0	1132	921	0	1084	811	1197	1128	795	1213	1259
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.7	0.0	8.7	8.8	0.0	8.6	21.6	16.4	16.4	19.4	13.5	13.5
Incr Delay (d2), s/veh	0.5	0.0	0.6	0.7	0.0	0.6	16.5	1.0	1.1	7.8	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	2.3	1.9	0.0	1.9	0.5	0.9	0.9	2.0	0.9	0.9
LnGrp Delay(d),s/veh	9.2	0.0	9.4	9.5	0.0	9.2	38.1	17.3	17.6	27.2	14.0	14.0
LnGrp LOS	A		A	A		A	D	B	B	C	B	B
Approach Vol, veh/h		538			421			169			305	
Approach Delay, s/veh		9.3			9.3			20.4			19.7	
Approach LOS		A			A			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.9	5.0	15.7		23.9	8.6	12.2
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0
Max Green Setting (Gmax), s		30.0	20.0	30.0		30.0	20.0	30.0
Max Q Clear Time (g_c+I1), s		6.6	2.6	3.7		8.2	5.2	3.7
Green Ext Time (p_c), s		11.2	0.0	3.4		10.7	0.4	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	12.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	509	184	45	296	35	82	60	12	65	121	6
Future Volume (veh/h)	19	509	184	45	296	35	82	60	12	65	121	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	559	202	49	325	38	90	66	13	71	133	7
Adj No. of Lanes	1	1	1	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	36	748	636	70	1345	156	122	208	41	94	228	193
Arrive On Green	0.02	0.39	0.39	0.04	0.41	0.41	0.07	0.14	0.14	0.05	0.12	0.12
Sat Flow, veh/h	1810	1900	1615	1810	3260	378	1810	1543	304	1810	1900	1611
Grp Volume(v), veh/h	21	559	202	49	179	184	90	0	79	71	133	7
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1805	1833	1810	0	1846	1810	1900	1611
Q Serve(g_s), s	0.6	13.3	4.6	1.4	3.4	3.4	2.6	0.0	2.0	2.0	3.5	0.2
Cycle Q Clear(g_c), s	0.6	13.3	4.6	1.4	3.4	3.4	2.6	0.0	2.0	2.0	3.5	0.2
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	36	748	636	70	745	756	122	0	249	94	228	193
V/C Ratio(X)	0.58	0.75	0.32	0.70	0.24	0.24	0.74	0.00	0.32	0.76	0.58	0.04
Avail Cap(c_a), veh/h	860	903	768	688	858	872	688	0	983	688	1012	858
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	13.7	11.0	25.0	10.1	10.1	24.1	0.0	20.5	24.6	21.9	20.5
Incr Delay (d2), s/veh	18.9	3.3	0.4	16.2	0.2	0.2	11.8	0.0	1.0	16.0	3.4	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	0.5	7.5	2.1	1.0	1.7	1.8	1.7	0.0	1.1	1.4	2.0	0.1
LnGrp Delay(d),s/veh	44.5	17.0	11.4	41.1	10.3	10.3	35.9	0.0	21.6	40.6	25.3	20.6
LnGrp LOS	D	B	B	D	B	B	D		C	D	C	C
Approach Vol, veh/h		782			412			169			211	
Approach Delay, s/veh		16.3			14.0			29.2			30.3	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	26.7	7.5	12.3	5.1	27.7	6.7	13.1
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	20.0	25.0	20.0	28.0	25.0	25.0	20.0	28.0
Max Q Clear Time (g_c+I1), s	3.4	15.3	4.6	5.5	2.6	5.4	4.0	4.0
Green Ext Time (p_c), s	0.1	5.4	0.3	1.6	0.0	8.4	0.2	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	18.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	527	67	109	337	61	27	111	94	51	177	24
Future Volume (veh/h)	18	527	67	109	337	61	27	111	94	51	177	24
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1883	1900	1900	1884	1900	1900	1891	1900	1900	1887	1900
Adj Flow Rate, veh/h	19	567	72	117	362	66	29	119	101	55	190	26
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	0	1	1	1	1	1	1	1	1
Cap, veh/h	469	693	88	349	733	134	105	221	169	142	326	41
Arrive On Green	0.01	0.42	0.42	0.06	0.47	0.47	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1810	1639	208	1810	1551	283	109	917	700	238	1353	169
Grp Volume(v), veh/h	19	0	639	117	0	428	249	0	0	271	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1847	1810	0	1834	1725	0	0	1760	0	0
Q Serve(g_s), s	0.3	0.0	15.7	1.8	0.0	8.2	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	15.7	1.8	0.0	8.2	6.3	0.0	0.0	6.7	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.15	0.12		0.41	0.20		0.10
Lane Grp Cap(c), veh/h	469	0	781	349	0	866	494	0	0	508	0	0
V/C Ratio(X)	0.04	0.00	0.82	0.34	0.00	0.49	0.50	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	1097	0	864	887	0	866	870	0	0	884	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.5	0.0	13.1	9.9	0.0	9.3	17.2	0.0	0.0	17.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	6.2	0.6	0.0	0.6	1.1	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	9.2	0.9	0.0	4.3	3.3	0.0	0.0	3.6	0.0	0.0
LnGrp Delay(d),s/veh	8.6	0.0	19.3	10.5	0.0	9.9	18.3	0.0	0.0	18.5	0.0	0.0
LnGrp LOS	A		B	B		A	B			B		
Approach Vol, veh/h		658			545			249			271	
Approach Delay, s/veh		18.9			10.1			18.3			18.5	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.3	26.7		17.4	4.7	29.2		17.4
Change Period (Y+Rc), s	4.0	5.0		5.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	18.5	24.0		24.0	18.5	24.0		24.0
Max Q Clear Time (g_c+I1), s	3.8	17.7		8.7	2.3	10.2		8.3
Green Ext Time (p_c), s	0.2	4.0		3.9	0.0	7.6		4.0

Intersection Summary	
HCM 2010 Ctrl Delay	16.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	448	132	32	299	44	57	97	27	36	139	6
Future Volume (veh/h)	12	448	132	32	299	44	57	97	27	36	139	6
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1827	1884	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	13	472	139	34	315	46	60	102	28	38	146	6
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
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, %	0	0	0	4	1	1	0	0	0	0	0	0
Cap, veh/h	24	629	185	54	745	109	163	181	41	143	321	323
Arrive On Green	0.01	0.45	0.45	0.03	0.46	0.46	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1810	1411	416	1740	1607	235	288	908	207	233	1606	1615
Grp Volume(v), veh/h	13	0	611	34	0	361	190	0	0	184	0	6
Grp Sat Flow(s),veh/h/ln	1810	0	1827	1740	0	1842	1402	0	0	1839	0	1615
Q Serve(g_s), s	0.3	0.0	12.5	0.9	0.0	5.9	2.2	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.3	0.0	12.5	0.9	0.0	5.9	6.1	0.0	0.0	3.9	0.0	0.1
Prop In Lane	1.00		0.23	1.00		0.13	0.32		0.15	0.21		1.00
Lane Grp Cap(c), veh/h	24	0	815	54	0	854	386	0	0	464	0	323
V/C Ratio(X)	0.54	0.00	0.75	0.63	0.00	0.42	0.49	0.00	0.00	0.40	0.00	0.02
Avail Cap(c_a), veh/h	605	0	1019	970	0	986	637	0	0	736	0	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	10.3	21.5	0.0	8.0	16.6	0.0	0.0	15.9	0.0	14.4
Incr Delay (d2), s/veh	24.0	0.0	2.9	16.3	0.0	0.5	1.4	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	6.8	0.6	0.0	3.0	2.3	0.0	0.0	2.1	0.0	0.1
LnGrp Delay(d),s/veh	46.0	0.0	13.2	37.8	0.0	8.5	18.0	0.0	0.0	16.7	0.0	14.4
LnGrp LOS	D		B	D		A	B			B		B
Approach Vol, veh/h		624			395			190			190	
Approach Delay, s/veh		13.9			11.0			18.0			16.6	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.4	25.5		14.0	4.6	26.3		14.0
Change Period (Y+Rc), s	4.0	5.5		5.0	4.0	5.5		5.0
Max Green Setting (Gmax), s	25.0	25.0		16.0	15.0	24.0		16.0
Max Q Clear Time (g_c+I1), s	2.9	14.5		5.9	2.3	7.9		8.1
Green Ext Time (p_c), s	0.1	5.5		2.1	0.0	7.3		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	14.0
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	34	330	3	0	513
Future Vol, veh/h	0	34	330	3	0	513
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, %	0	0	3	0	0	2
Mvmt Flow	0	37	359	3	0	558

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	360	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	689	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	689	-	-	-	-
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)	-	-	689	-
HCM Lane V/C Ratio	-	-	0.054	-
HCM Control Delay (s)	-	-	10.5	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	41	292	3	132	381
Future Vol, veh/h	4	41	292	3	132	381
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	-	-	-	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	4	45	317	3	143	414

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1020	319	0	0	321	0
Stage 1	319	-	-	-	-	-
Stage 2	701	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	264	726	-	-	1250	-
Stage 1	741	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	234	726	-	-	1250	-
Mov Cap-2 Maneuver	347	-	-	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	439	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	662	1250	-
HCM Lane V/C Ratio	-	-	0.074	0.115	-
HCM Control Delay (s)	-	-	10.9	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.4	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	22	273	3	35	350
Future Vol, veh/h	8	22	273	3	35	350
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	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	9	24	297	3	38	380

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	755	298	0	0	300	0
Stage 1	298	-	-	-	-	-
Stage 2	457	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	379	746	-	-	1273	-
Stage 1	758	-	-	-	-	-
Stage 2	642	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	368	746	-	-	1273	-
Mov Cap-2 Maneuver	368	-	-	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	623	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	586	1273	-
HCM Lane V/C Ratio	-	-	0.056	0.03	-
HCM Control Delay (s)	-	-	11.5	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	107	168	19	143	216
Future Vol, veh/h	27	107	168	19	143	216
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	91	91	91	91	91	91
Heavy Vehicles, %	0	2	1	0	1	1
Mvmt Flow	30	118	185	21	157	237

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	747	195	0	0	205	0
Stage 1	195	-	-	-	-	-
Stage 2	552	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.209	-
Pot Cap-1 Maneuver	383	846	-	-	1372	-
Stage 1	843	-	-	-	-	-
Stage 2	581	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	332	846	-	-	1372	-
Mov Cap-2 Maneuver	332	-	-	-	-	-
Stage 1	843	-	-	-	-	-
Stage 2	504	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	3.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	645	1372	-
HCM Lane V/C Ratio	-	-	0.228	0.115	-
HCM Control Delay (s)	-	-	12.2	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0.4	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	128	108	2	2	26
Future Vol, veh/h	34	128	108	2	2	26
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	91	91	91	91	91	91
Heavy Vehicles, %	0	3	0	0	0	0
Mvmt Flow	37	141	119	2	2	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	121	0	-	0	335	120
Stage 1	-	-	-	-	120	-
Stage 2	-	-	-	-	215	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1479	-	-	-	664	937
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	826	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1479	-	-	-	646	937
Mov Cap-2 Maneuver	-	-	-	-	646	-
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	804	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1479	-	-	-	908
HCM Lane V/C Ratio	0.025	-	-	-	0.034
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	42.4

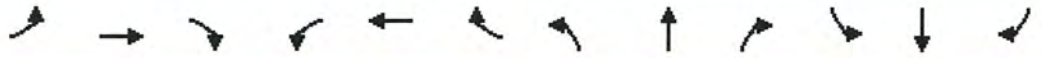
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	369	61	85	172	0	28	0	212	0	269	121
Future Vol, veh/h	0	369	61	85	172	0	28	0	212	0	269	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	3
Mvmt Flow	0	397	66	91	185	0	30	0	228	0	289	130

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	462	0	0	1007	798	430	912	830	185
Stage 1	-	-	-	-	-	-	430	430	-	368	368	-
Stage 2	-	-	-	-	-	-	577	368	-	544	462	-
Critical Hdwy	-	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.327
Pot Cap-1 Maneuver	0	-	-	1110	-	0	221	321	629	257	308	855
Stage 1	0	-	-	-	-	0	607	587	-	656	625	-
Stage 2	0	-	-	-	-	0	506	625	-	527	568	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1110	-	-	-	292	629	152	~ 280	855
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	292	-	152	~ 280	-
Stage 1	-	-	-	-	-	-	607	587	-	656	568	-
Stage 2	-	-	-	-	-	-	191	568	-	336	568	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.8		141.2
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	-	1110	-	354
HCM Lane V/C Ratio	-	-	-	0.082	-	1.185
HCM Control Delay (s)	-	-	-	8.5	0	141.2
HCM Lane LOS	-	-	-	A	A	F
HCM 95th %tile Q(veh)	-	-	-	0.3	-	17.3

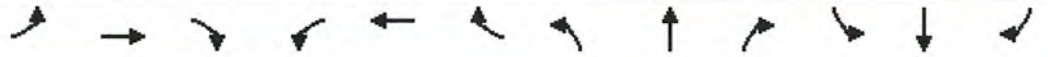
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	369	61	85	172	0	28	0	212	0	269	121
Future Volume (vph)	0	369	61	85	172	0	28	0	212	0	269	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.5		4.5		4.5	4.5
Lane Util. Factor		0.95			1.00		1.00		1.00		1.00	1.00
Frpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Flpb, ped/bikes		1.00			1.00		1.00		1.00		1.00	1.00
Frt		0.98			1.00		1.00		0.85		1.00	0.85
Flt Protected		1.00			0.98		0.95		1.00		1.00	1.00
Satd. Flow (prot)		3503			1869		1805		1615		1900	1568
Flt Permitted		1.00			0.46		0.95		1.00		1.00	1.00
Satd. Flow (perm)		3503			866		1805		1615		1900	1568
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	397	66	91	185	0	30	0	228	0	289	130
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	207	0	0	91
Lane Group Flow (vph)	0	452	0	0	276	0	30	0	21	0	289	39
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Turn Type		NA		Perm	NA		Prot		Prot		NA	Perm
Protected Phases		18 3 8			14 4!		15		15		6!	
Permitted Phases				14 4!								6
Actuated Green, G (s)		35.0			48.3		11.1		11.1		36.9	36.9
Effective Green, g (s)		35.0			48.3		11.1		11.1		36.9	36.9
Actuated g/C Ratio		0.29			0.40		0.09		0.09		0.30	0.30
Clearance Time (s)							4.5		4.5		4.5	4.5
Vehicle Extension (s)							3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1004			342		164		146		574	474
v/s Ratio Prot		0.13					c0.02		0.01		c0.15	
v/s Ratio Perm					c0.32							0.03
v/c Ratio		0.45			0.81		0.18		0.14		0.50	0.08
Uniform Delay, d1		35.6			32.7		51.3		51.1		35.0	30.4
Progression Factor		1.00			0.45		1.00		1.00		1.00	1.00
Incremental Delay, d2		0.1			11.0		0.5		0.4		3.1	0.3
Delay (s)		35.7			25.8		51.8		51.5		38.1	30.8
Level of Service		D			C		D		D		D	C
Approach Delay (s)		35.7			25.8			51.5			35.9	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

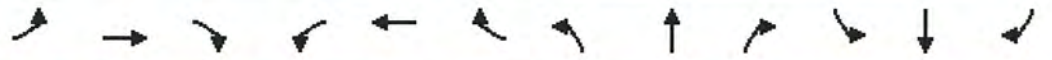
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	310	67	15	229	7	28	320	11	97	398	0
Future Volume (veh/h)	204	310	67	15	229	7	28	320	11	97	398	0
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1882	1900	1900	1862	1900	1900	1900	1900
Adj Flow Rate, veh/h	227	344	74	17	254	0	31	356	12	108	442	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	0	1	1	0	0	1	1	0	0	0
Cap, veh/h	262	396	572	21	310	285	55	552	19	141	743	0
Arrive On Green	0.36	0.36	0.36	0.18	0.18	0.00	0.03	0.16	0.16	0.08	0.21	0.00
Sat Flow, veh/h	729	1105	1593	118	1759	1615	1810	3493	117	1810	3705	0
Grp Volume(v), veh/h	571	0	74	271	0	0	31	180	188	108	442	0
Grp Sat Flow(s),veh/h/ln	1834	0	1593	1876	0	1615	1810	1769	1841	1810	1805	0
Q Serve(g_s), s	25.4	0.0	2.7	12.2	0.0	0.0	1.5	8.3	8.4	5.1	9.7	0.0
Cycle Q Clear(g_c), s	25.4	0.0	2.7	12.2	0.0	0.0	1.5	8.3	8.4	5.1	9.7	0.0
Prop In Lane	0.40		1.00	0.06		1.00	1.00		0.06	1.00		0.00
Lane Grp Cap(c), veh/h	658	0	572	331	0	285	55	280	291	141	743	0
V/C Ratio(X)	0.87	0.00	0.13	0.82	0.00	0.00	0.57	0.64	0.65	0.76	0.59	0.00
Avail Cap(c_a), veh/h	1048	0	910	643	0	554	620	606	631	620	1238	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.1	0.0	18.9	34.7	0.0	0.0	41.9	34.5	34.5	39.5	31.4	0.0
Incr Delay (d2), s/veh	4.8	0.0	0.1	5.0	0.0	0.0	8.9	1.8	1.8	8.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.7	0.0	1.2	6.8	0.0	0.0	0.9	4.2	4.4	2.9	4.9	0.0
LnGrp Delay(d),s/veh	30.9	0.0	19.0	39.7	0.0	0.0	50.7	36.4	36.3	47.8	31.7	0.0
LnGrp LOS	C		B	D			D	D	D	D	C	
Approach Vol, veh/h		645			271			399			550	
Approach Delay, s/veh		29.5			39.7			37.5			34.9	
Approach LOS		C			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.6	23.0		20.4	11.8	18.8		36.4
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	3.5	11.7		14.2	7.1	10.4		27.4
Green Ext Time (p_c), s	0.0	3.4		1.3	0.2	3.4		4.0

Intersection Summary	
HCM 2010 Ctrl Delay	34.3
HCM 2010 LOS	C

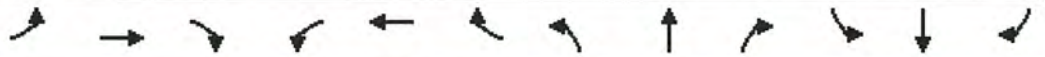


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	310	67	15	229	7	28	320	11	97	398	0
Future Volume (vph)	204	310	67	15	229	7	28	320	11	97	398	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1698	1765	1593		1876	1615	1805	3574	1214	1805	3610	
Flt Permitted	0.95	0.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1698	0	1593		1797	1615	1805	3574	1214	1805	3610	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	227	344	74	17	254	8	31	356	12	108	442	0
RTOR Reduction (vph)	0	0	43	0	0	6	0	0	10	0	0	0
Lane Group Flow (vph)	204	367	31	0	271	2	31	356	2	108	442	0
Confl. Bikes (#/hr)			3									
Heavy Vehicles (%)	1%	2%	0%	0%	1%	0%	0%	1%	33%	0%	0%	0%
Turn Type	Prot	NA	custom	Perm	NA	Prot	Prot	NA	Perm	Prot	NA	
Protected Phases	3 16 15!	8 17 15			4!	4!	5!	2!		1!	6!	
Permitted Phases			8 17	4					2			
Actuated Green, G (s)	51.1	51.1	51.1		35.0	35.0	4.7	20.5	20.5	38.9	36.9	
Effective Green, g (s)	51.1	51.1	51.1		35.0	35.0	4.7	20.5	20.5	38.9	36.9	
Actuated g/C Ratio	0.42	0.42	0.42		0.29	0.29	0.04	0.17	0.17	0.32	0.30	
Clearance Time (s)					5.0	5.0	5.0	4.5	4.5	4.5	4.5	
Vehicle Extension (s)					1.9	1.9	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	711	739	667		515	463	69	600	203	575	1091	
v/s Ratio Prot	0.12	c0.21				0.00	0.02	c0.10		0.06	c0.12	
v/s Ratio Perm			0.02		0.15				0.00			
v/c Ratio	0.29	0.50	0.05		0.53	0.00	0.45	0.59	0.01	0.19	0.41	
Uniform Delay, d1	23.4	26.0	21.0		36.5	31.1	57.4	46.9	42.3	30.1	33.8	
Progression Factor	0.34	0.39	0.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.4	0.0		0.4	0.0	4.6	1.6	0.0	0.7	1.1	
Delay (s)	8.1	10.5	0.0		37.0	31.1	62.0	48.5	42.3	30.8	34.9	
Level of Service	A	B	A		D	C	E	D	D	C	C	
Approach Delay (s)		8.6			36.8			49.3			34.1	
Approach LOS		A			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	544	74	137	413	46	67	78	86	64	132	34
Future Volume (veh/h)	39	544	74	137	413	46	67	78	86	64	132	34
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1883	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	50	697	95	176	529	59	86	100	110	82	169	44
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	0
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	0	1	1	0	0	0	0	0	0	0	0	0
Cap, veh/h	406	808	110	291	911	102	247	319	272	321	241	63
Arrive On Green	0.03	0.50	0.50	0.07	0.54	0.54	0.06	0.17	0.17	0.05	0.17	0.17
Sat Flow, veh/h	1810	1623	221	1810	1680	187	1810	1900	1615	1810	1454	379
Grp Volume(v), veh/h	50	0	792	176	0	588	86	100	110	82	0	213
Grp Sat Flow(s),veh/h/ln	1810	0	1844	1810	0	1867	1810	1900	1615	1810	0	1833
Q Serve(g_s), s	1.2	0.0	34.2	4.0	0.0	19.0	3.5	4.2	5.5	3.4	0.0	9.9
Cycle Q Clear(g_c), s	1.2	0.0	34.2	4.0	0.0	19.0	3.5	4.2	5.5	3.4	0.0	9.9
Prop In Lane	1.00		0.12	1.00		0.10	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	406	0	918	291	0	1013	247	319	272	321	0	304
V/C Ratio(X)	0.12	0.00	0.86	0.60	0.00	0.58	0.35	0.31	0.41	0.26	0.00	0.70
Avail Cap(c_a), veh/h	759	0	918	763	0	1013	547	672	571	725	0	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.9	0.0	20.0	18.0	0.0	13.8	29.4	33.0	33.6	29.0	0.0	35.6
Incr Delay (d2), s/veh	0.1	0.0	10.5	2.0	0.0	2.4	0.8	1.2	2.1	0.4	0.0	6.1
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	0.6	0.0	19.8	2.4	0.0	10.3	1.8	2.3	2.6	1.7	0.0	5.5
LnGrp Delay(d),s/veh	12.0	0.0	30.5	20.0	0.0	16.2	30.2	34.2	35.6	29.4	0.0	41.7
LnGrp LOS	B		C	C		B	C	C	D	C		D
Approach Vol, veh/h		842			764			296			295	
Approach Delay, s/veh		29.4			17.1			33.6			38.3	
Approach LOS		C			B			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	54.1	9.3	20.2	10.9	50.0	9.5	20.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	20.0	30.0	25.0	32.0	30.0	45.0	20.0	25.0
Max Q Clear Time (g_c+I1), s	3.2	21.0	5.4	7.5	6.0	36.2	5.5	11.9
Green Ext Time (p_c), s	0.1	7.5	0.2	4.3	0.5	7.4	0.1	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	26.9
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	0	0	127	223	19
Future Vol, veh/h	9	0	0	127	223	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	5	0	0
Mvmt Flow	10	0	0	138	242	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	391	253	263	0	-	0
Stage 1	253	-	-	-	-	-
Stage 2	138	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	617	791	1313	-	-	-
Stage 1	794	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	617	791	1313	-	-	-
Mov Cap-2 Maneuver	617	-	-	-	-	-
Stage 1	794	-	-	-	-	-
Stage 2	894	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1313	-	617	-	-
HCM Lane V/C Ratio	-	-	0.016	-	-
HCM Control Delay (s)	0	-	10.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	2	3	108	191	32
Future Vol, veh/h	19	2	3	108	191	32
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, %	0	0	0	5	0	0
Mvmt Flow	21	2	3	117	208	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	349	225	242	0	-	0
Stage 1	225	-	-	-	-	-
Stage 2	124	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	652	819	1336	-	-	-
Stage 1	817	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	651	819	1336	-	-	-
Mov Cap-2 Maneuver	651	-	-	-	-	-
Stage 1	817	-	-	-	-	-
Stage 2	905	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1336	-	664	-	-
HCM Lane V/C Ratio	0.002	-	0.034	-	-
HCM Control Delay (s)	7.7	0	10.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	2	3	89	154	39
Future Vol, veh/h	22	2	3	89	154	39
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, %	0	0	0	5	0	0
Mvmt Flow	24	2	3	97	167	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	292	189	210	0	-	0
Stage 1	189	-	-	-	-	-
Stage 2	103	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	703	858	1373	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	926	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	702	858	1373	-	-	-
Mov Cap-2 Maneuver	702	-	-	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	924	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1373	-	713	-	-
HCM Lane V/C Ratio	0.002	-	0.037	-	-
HCM Control Delay (s)	7.6	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	8	13	84	143	13
Future Vol, veh/h	8	8	13	84	143	13
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, %	0	0	0	5	0	0
Mvmt Flow	9	9	14	91	155	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	283	163	170	0	-	0
Stage 1	163	-	-	-	-	-
Stage 2	120	-	-	-	-	-
Critical Hdwy	7.1	6.2	4.1	-	-	-
Critical Hdwy Stg 1	6.1	-	-	-	-	-
Critical Hdwy Stg 2	6.1	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	673	887	1420	-	-	-
Stage 1	844	-	-	-	-	-
Stage 2	889	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	668	887	1420	-	-	-
Mov Cap-2 Maneuver	668	-	-	-	-	-
Stage 1	836	-	-	-	-	-
Stage 2	880	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1420	-	762	-	-
HCM Lane V/C Ratio	0.01	-	0.023	-	-
HCM Control Delay (s)	7.6	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

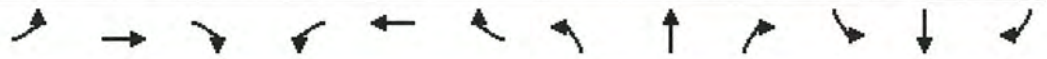
Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	49	0	63	0	0	0	34	48	0	0	103	45
Future Vol, veh/h	49	0	63	0	0	0	34	48	0	0	103	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	5	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	57	0	73	0	0	0	40	56	0	0	120	52

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	281	281	146	318	307	56	172	0	0	56	0	0
Stage 1	146	146	-	135	135	-	-	-	-	-	-	-
Stage 2	135	135	-	183	172	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	665	631	906	639	610	1016	1417	-	-	1562	-	-
Stage 1	850	780	-	873	789	-	-	-	-	-	-	-
Stage 2	861	789	-	823	760	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	650	613	906	574	592	1016	1417	-	-	1562	-	-
Mov Cap-2 Maneuver	650	613	-	574	592	-	-	-	-	-	-	-
Stage 1	825	780	-	848	766	-	-	-	-	-	-	-
Stage 2	836	766	-	756	760	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	0	3.2	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1417	-	-	773	-	1562	-	-
HCM Lane V/C Ratio	0.028	-	-	0.168	-	-	-	-
HCM Control Delay (s)	7.6	0	-	10.6	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	-	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	377	224	191	405	53	156	203	126	58	272	81
Future Volume (veh/h)	97	377	224	191	405	53	156	203	126	58	272	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1876	1900	1881	1883	1900	1900	1824	1900	1900	1885	1900
Adj Flow Rate, veh/h	114	444	264	225	476	62	184	239	148	68	320	95
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	2	2	1	1	1	0	3	3	0	1	1
Cap, veh/h	149	661	390	270	612	80	228	537	320	90	494	144
Arrive On Green	0.08	0.31	0.31	0.15	0.37	0.37	0.13	0.26	0.26	0.05	0.18	0.18
Sat Flow, veh/h	1810	2160	1275	1792	1633	213	1810	2090	1247	1810	2736	799
Grp Volume(v), veh/h	114	366	342	225	0	538	184	197	190	68	208	207
Grp Sat Flow(s),veh/h/ln	1810	1783	1652	1792	0	1846	1810	1733	1604	1810	1791	1744
Q Serve(g_s), s	5.2	15.1	15.3	10.3	0.0	21.7	8.4	8.0	8.5	3.1	9.1	9.3
Cycle Q Clear(g_c), s	5.2	15.1	15.3	10.3	0.0	21.7	8.4	8.0	8.5	3.1	9.1	9.3
Prop In Lane	1.00		0.77	1.00		0.12	1.00		0.78	1.00		0.46
Lane Grp Cap(c), veh/h	149	545	505	270	0	691	228	445	412	90	323	315
V/C Ratio(X)	0.77	0.67	0.68	0.83	0.00	0.78	0.81	0.44	0.46	0.76	0.64	0.66
Avail Cap(c_a), veh/h	536	844	782	530	0	874	643	821	760	643	848	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	25.6	25.7	34.8	0.0	23.3	35.9	26.3	26.5	39.6	32.1	32.2
Incr Delay (d2), s/veh	8.0	1.4	1.6	6.6	0.0	3.5	6.6	0.5	0.6	12.0	1.8	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	7.6	7.2	5.6	0.0	11.7	4.6	3.9	3.8	1.9	4.7	4.7
LnGrp Delay(d),s/veh	46.0	27.0	27.3	41.5	0.0	26.8	42.5	26.8	27.1	51.7	33.9	34.2
LnGrp LOS	D	C	C	D		C	D	C	C	D	C	C
Approach Vol, veh/h		822			763			571			483	
Approach Delay, s/veh		29.8			31.1			32.0			36.5	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	27.2	17.2	30.3	16.2	20.7	11.4	36.1
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	40.0	30.0	40.0	25.0	40.0
Max Q Clear Time (g_c+I1), s	5.1	10.5	12.3	17.3	10.4	11.3	7.2	23.7
Green Ext Time (p_c), s	0.1	3.9	0.5	8.5	0.4	3.9	0.2	7.3

Intersection Summary	
HCM 2010 Ctrl Delay	31.9
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	225	432	0	0	436	12	0	0	0	18	0	234
Future Vol, veh/h	225	432	0	0	436	12	0	0	0	18	0	234
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	-	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	0	0	0	0	0	0	0	33	0	22
Mvmt Flow	285	547	0	0	552	15	0	0	0	23	0	296

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	567	0	0	547	0	0	1824	1683	548	1676	1675	559
Stage 1	-	-	-	-	-	-	1116	1116	-	559	559	-
Stage 2	-	-	-	-	-	-	708	567	-	1117	1116	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.43	6.5	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.43	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.43	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.797	4	3.498
Pot Cap-1 Maneuver	1010	-	-	1033	-	-	60	95	540	64	96	492
Stage 1	-	-	-	-	-	-	254	285	-	462	514	-
Stage 2	-	-	-	-	-	-	429	510	-	219	285	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1010	-	-	1032	-	-	19	68	539	50	69	492
Mov Cap-2 Maneuver	-	-	-	-	-	-	19	68	-	50	69	-
Stage 1	-	-	-	-	-	-	182	205	-	332	514	-
Stage 2	-	-	-	-	-	-	171	510	-	157	205	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.4	0	0	30.3
HCM LOS			A	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1010	-	-	1032	-	-	50	492
HCM Lane V/C Ratio	-	0.282	-	-	-	-	-	0.456	0.602
HCM Control Delay (s)	0	10	-	-	0	-	-	127.1	22.8
HCM Lane LOS	A	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	-	1.2	-	-	0	-	-	1.7	3.9

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	309	18	25	57	104	389
Future Vol, veh/h	309	18	25	57	104	389
Conflicting Peds, #/hr	0	0	1	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	0	0	2	0	0
Mvmt Flow	340	20	27	63	114	427

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	233	115	115	0	-	0
Stage 1	115	-	-	-	-	-
Stage 2	118	-	-	-	-	-
Critical Hdwy	6.42	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	755	943	1487	-	-	-
Stage 1	910	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	739	942	1487	-	-	-
Mov Cap-2 Maneuver	739	-	-	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	889	-	-	-	-	-

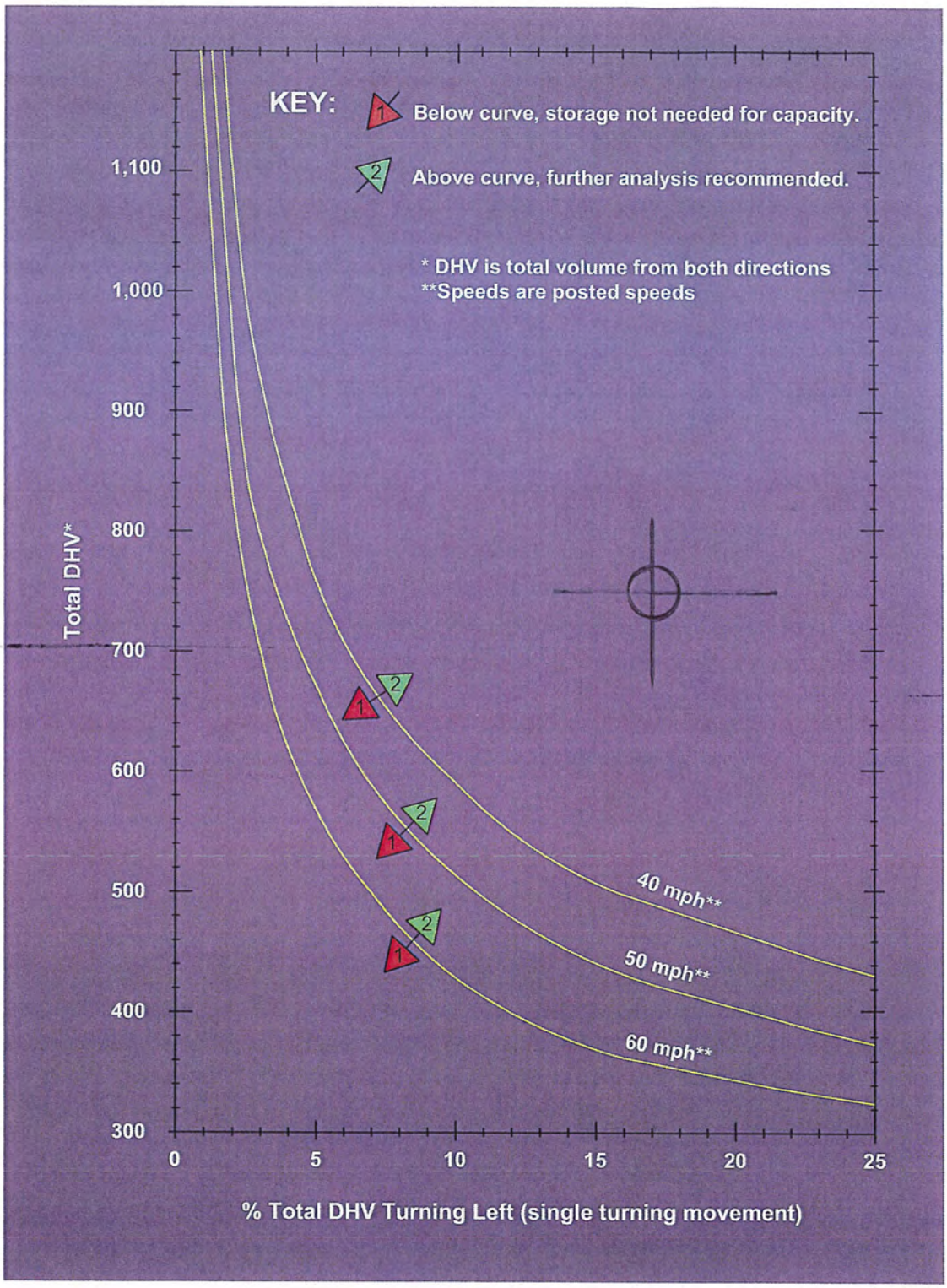
Approach	EB	NB	SB
HCM Control Delay, s	14.2	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1487	-	748	-	-
HCM Lane V/C Ratio	0.018	-	0.48	-	-
HCM Control Delay (s)	7.5	0	14.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	2.6	-	-

LEFT TURN WSDOT ANALYSIS

PROJECT ACCESS DRIVEWAYS

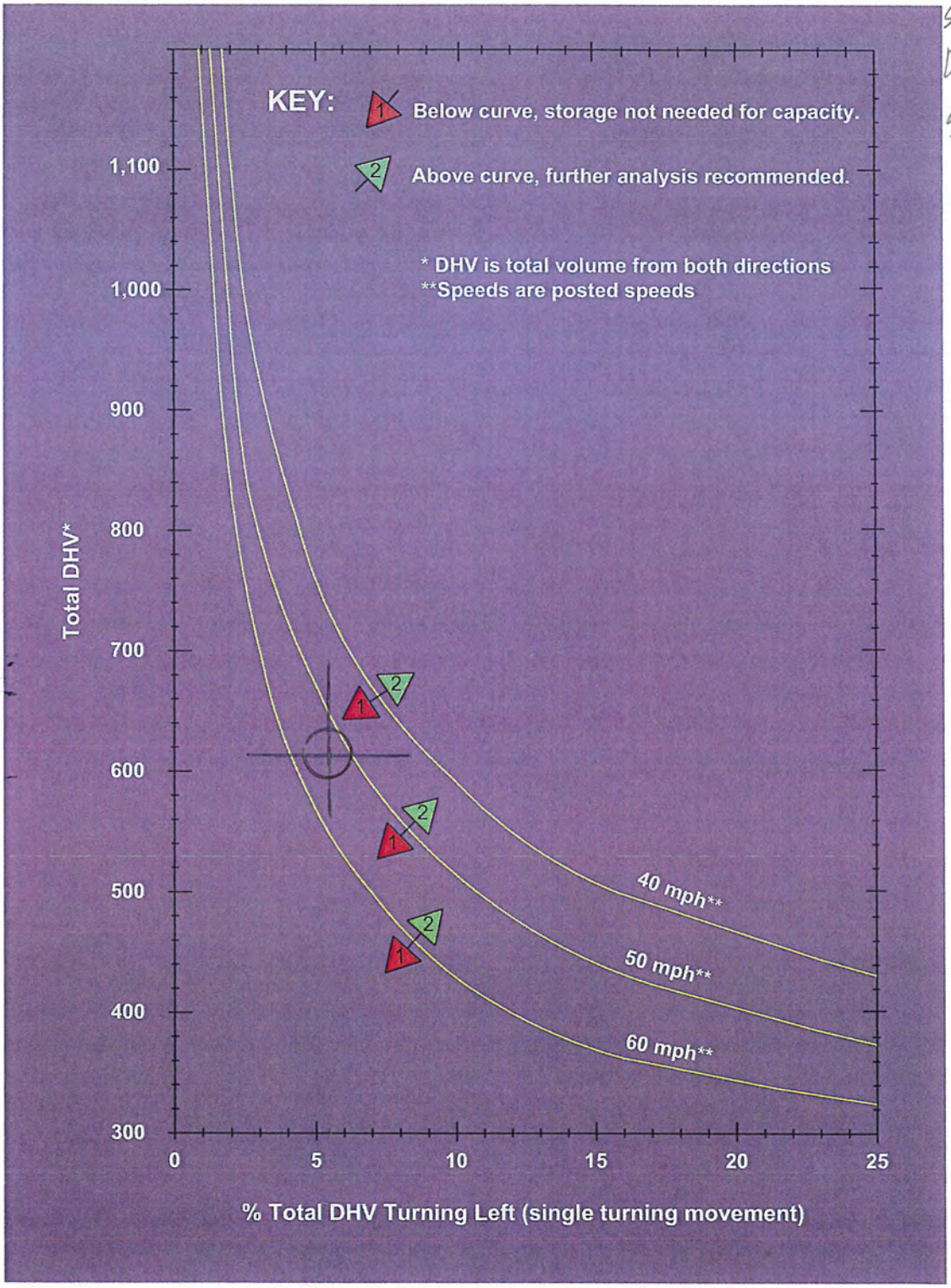
Year 2023 W/
SBL = 131
DHV = 767
% DHV leftture
131/767 = 17.1%



Left-Turn Storage Guidelines: Two-Lane, Unsignalized

Exhibit 1310-7a

YEAR 2025 W/
SBL = 33
DHV = 614
% DHV LEFT?
33/614 = 5.4%



Left-Turn Storage Guidelines: Two-Lane, Unsignalized
Exhibit 1310-7a

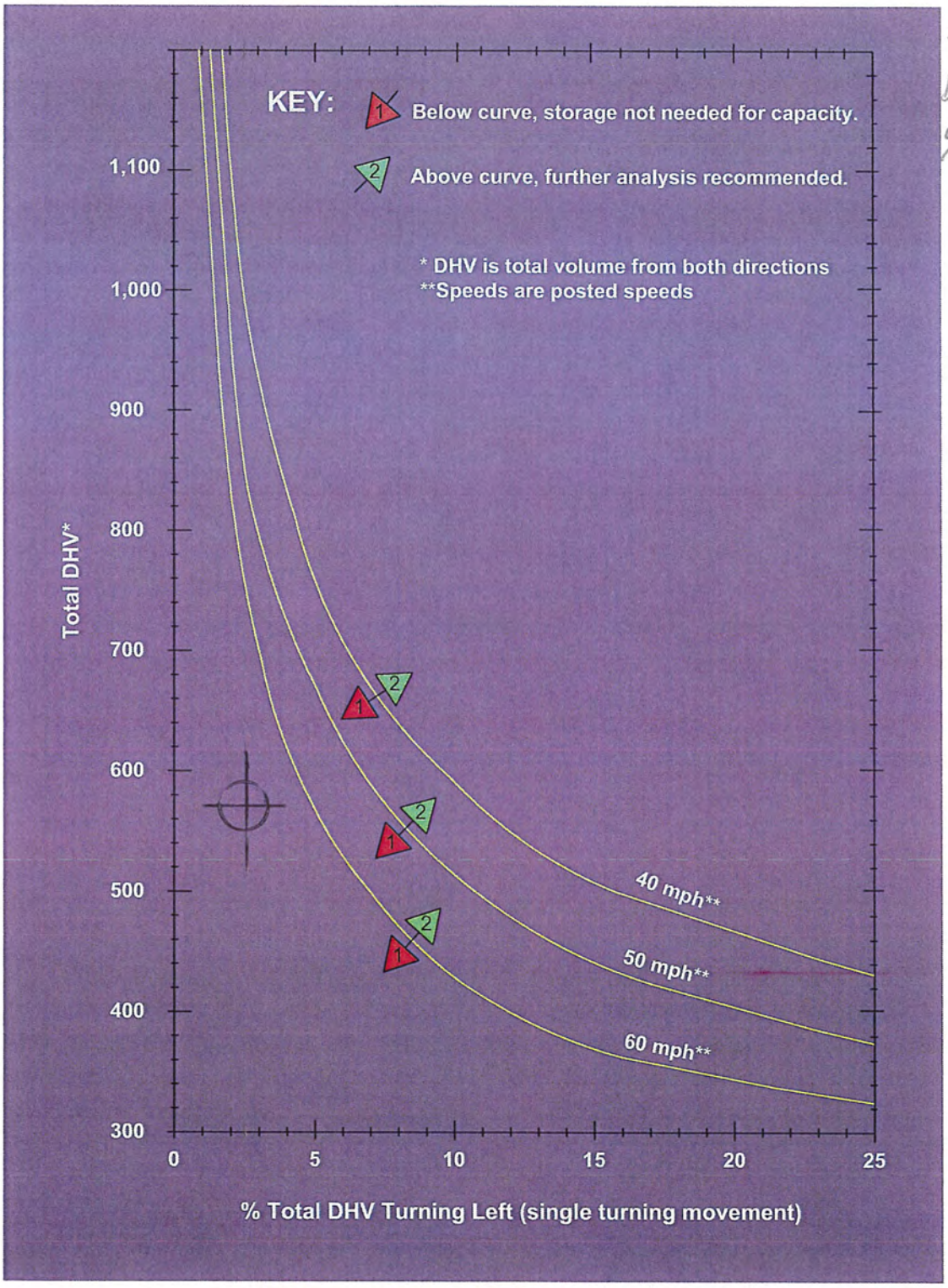
YEAR 2025

SBL = 15

DHV = 576

% DHV LEFT TU

$\frac{15}{576} = 2.6\%$



Left-Turn Storage Guidelines: Two-Lane, Unsignalized

Exhibit 1310-7a

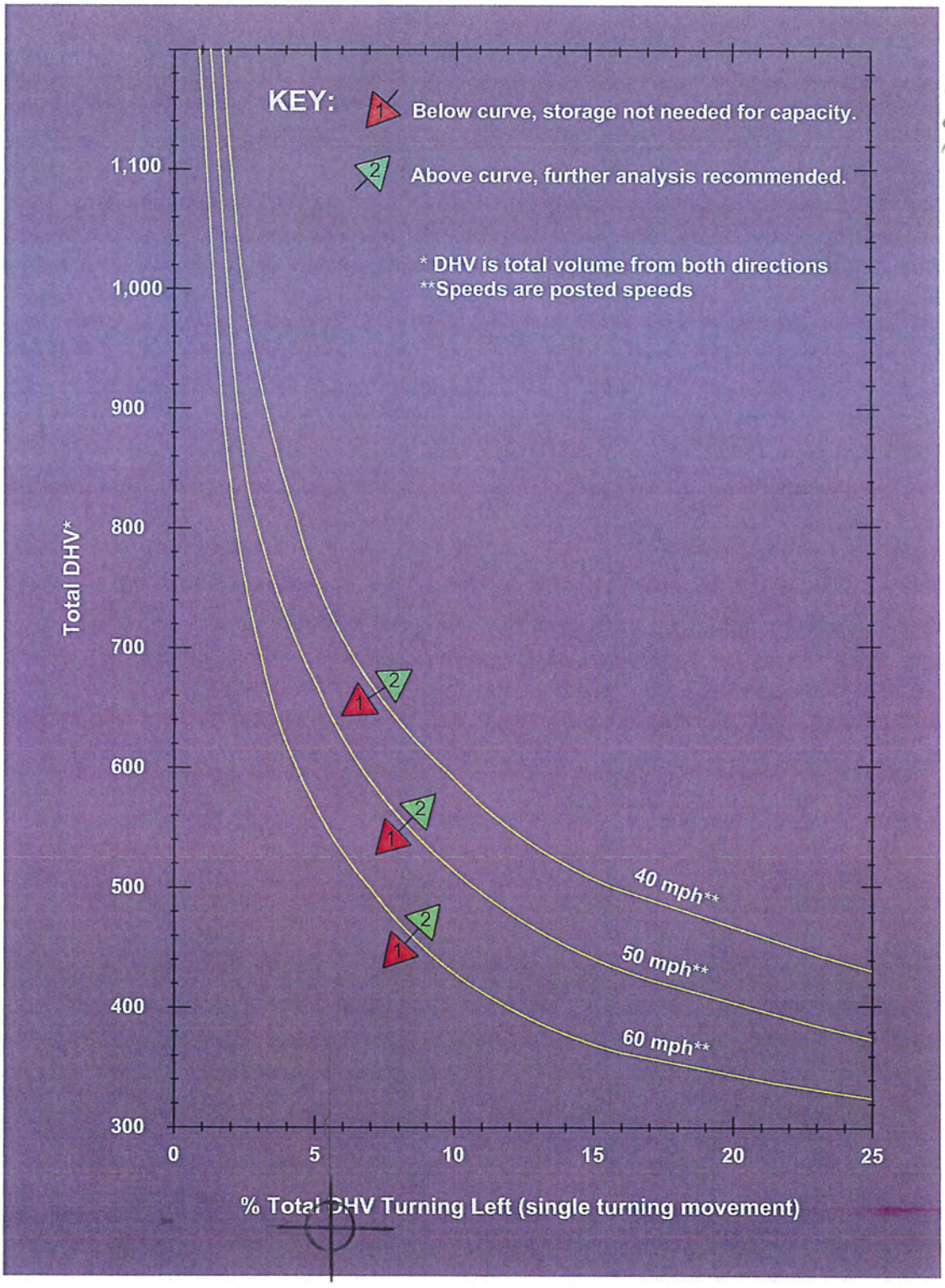
YEAR 2025 u

EBL = 13

DHV = 237

% DHV LEFT TH

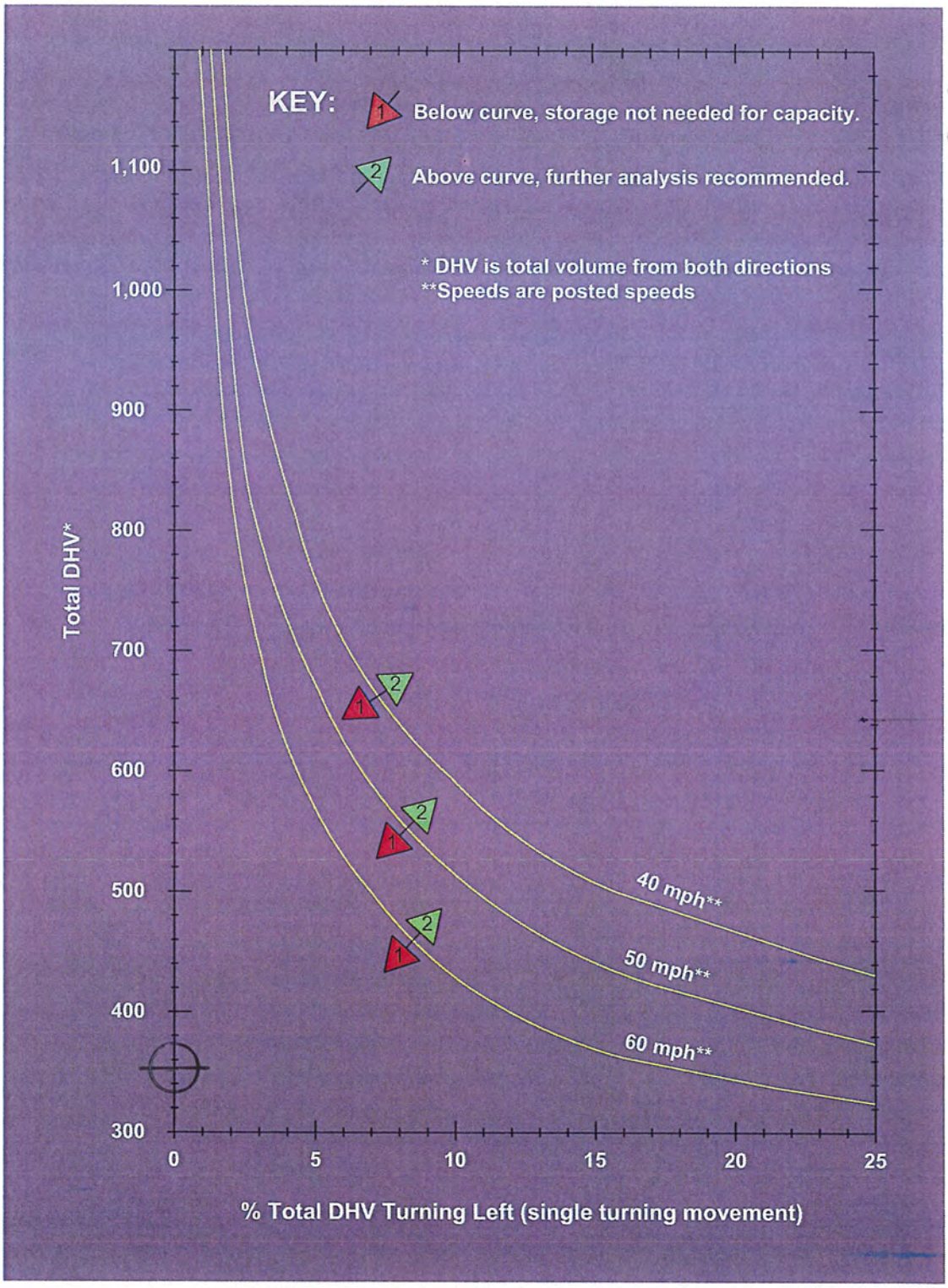
$\frac{13}{237} = 5.4\%$



Left-Turn Storage Guidelines: Two-Lane, Unsignalized

Exhibit 1310-7a

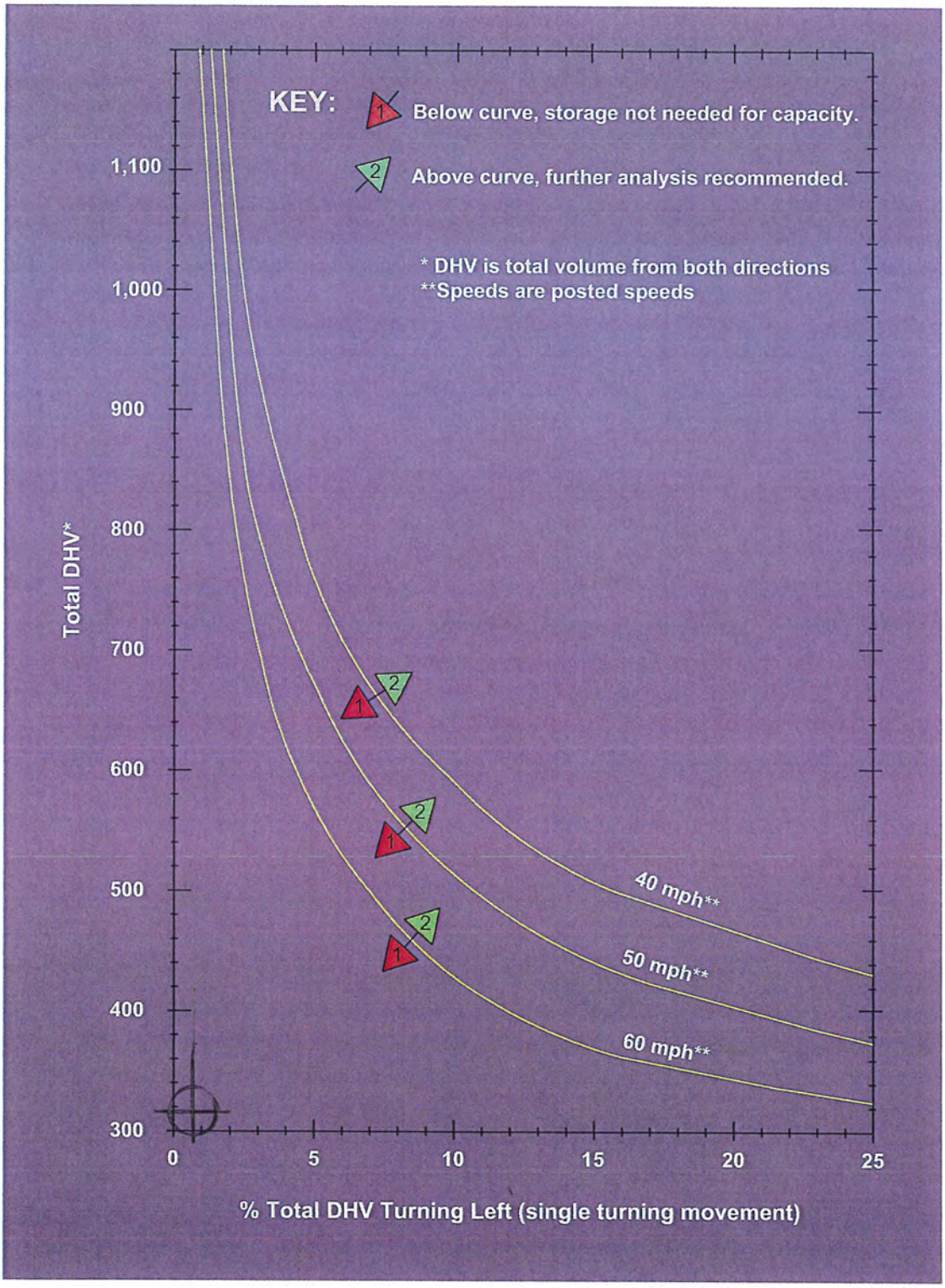
NBL 0
DHV 352
% DHV LEFT TH
$\frac{0}{352} = 0\%$



Left-Turn Storage Guidelines: Two-Lane, Unsignalized
Exhibit 1310-7a

YEAR 2025 W/

NBL 3
DHV 318
% DHV LEFT TURN
3/318 = 0.9%



Left-Turn Storage Guidelines: Two-Lane, Unsignalized

Exhibit 1310-7a

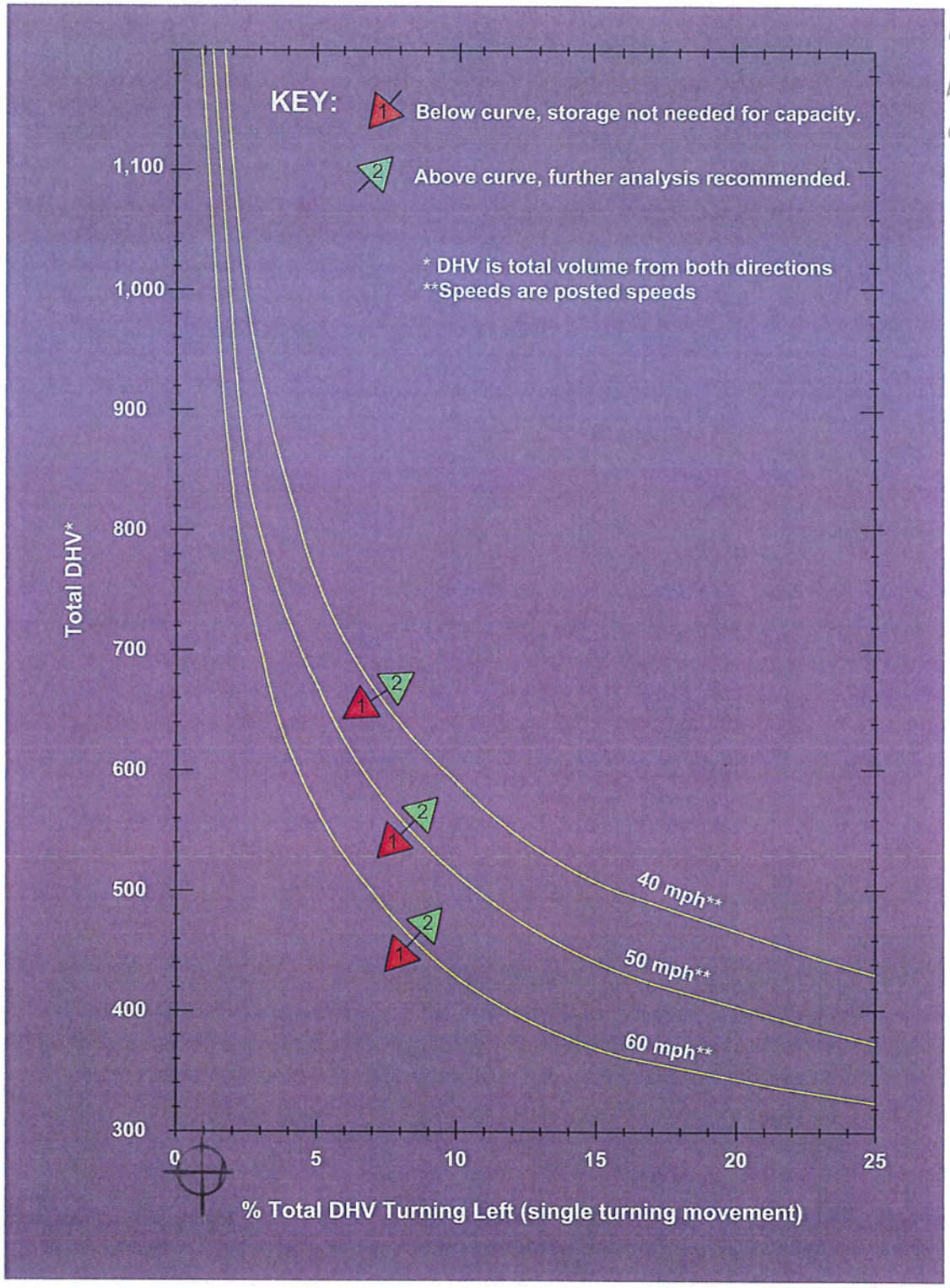
YEAR 2025 W/

NBL = 3

DHV = 270

% DHV LEFT TH

$\frac{3}{270} = 1.1\%$



Left-Turn Storage Guidelines: Two-Lane, Unsignalized

Exhibit 1310-7a

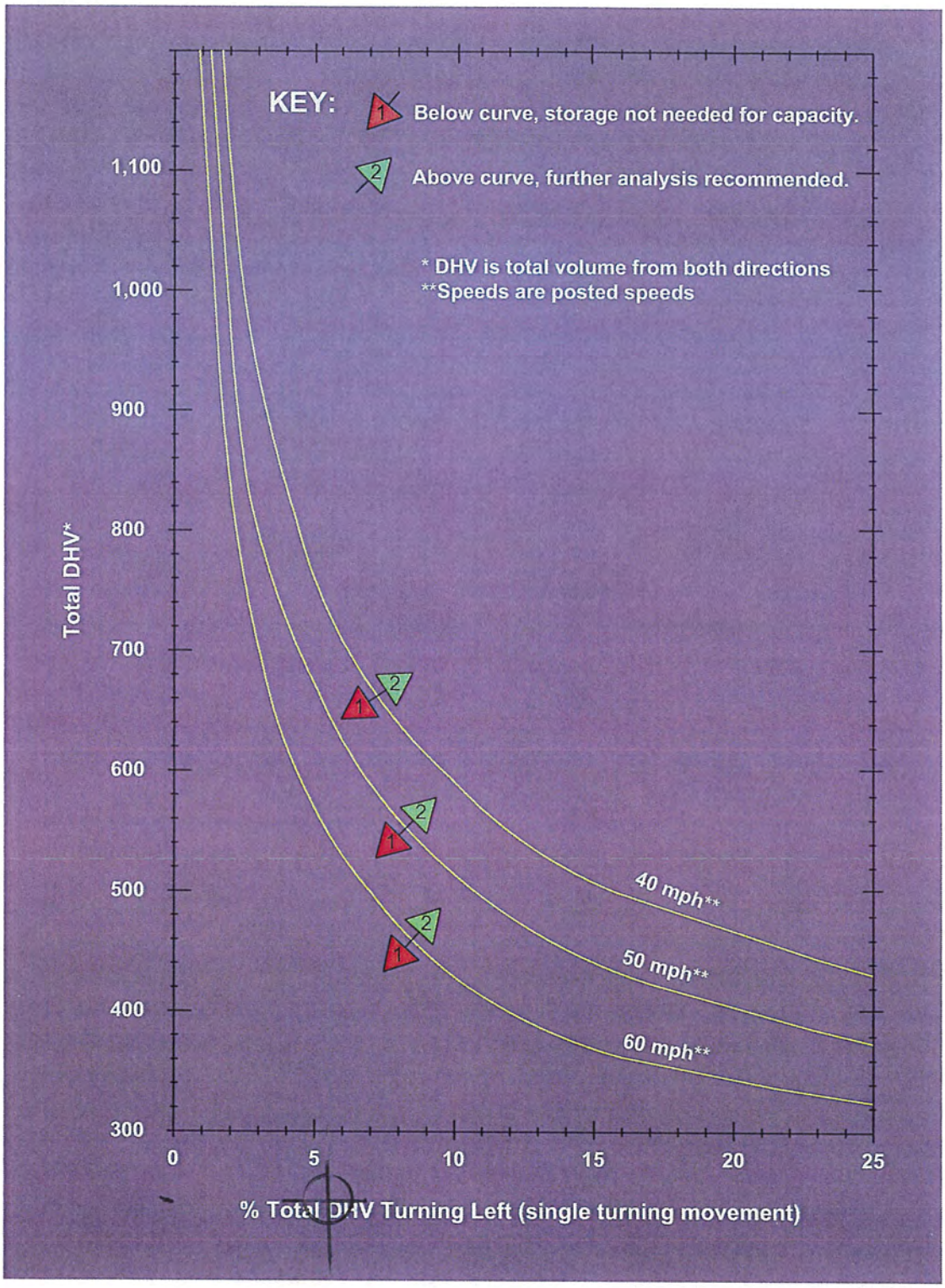
YEAR 2025 u,

NBL 13

DHV 239

% DHV LEFT T

$\frac{13}{239} = 5.4\%$



Left-Turn Storage Guidelines: Two-Lane, Unsignalized

Exhibit 1310-7a

WOODLAWN DRIVE
TUBE COUNTS

MIKE McCLUSKEY - WEE COUNT LLC
1110 E. EXCELSIOR RD.
SPOKANE WA. 99224
(509) 979-3331

WOODLAWN DR. :
S. OF 32TH :
35 MPH :

Site: SPOKANE VALLEY
3/11/2015
Wednesday

Daily Volume

Interval Start	SB		NB		Combined	
12:00 AM	1	1	0	1	1	2
12:15 AM	0		0		0	
12:30 AM	0		1		1	
12:45 AM	0		0		0	
1:00 AM	0	0	0	0	0	0
1:15 AM	0		0		0	
1:30 AM	0		0		0	
1:45 AM	0		0		0	
2:00 AM	0	1	1	2	1	3
2:15 AM	0		1		1	
2:30 AM	1		0		1	
2:45 AM	0		0		0	
3:00 AM	0	1	0	0	0	1
3:15 AM	1		0		1	
3:30 AM	0		0		0	
3:45 AM	0		0		0	
4:00 AM	0	0	1	6	1	6
4:15 AM	0		1		1	
4:30 AM	0		1		1	
4:45 AM	0		3		3	
5:00 AM	2	5	2	13	4	18
5:15 AM	1		2		3	
5:30 AM	1		4		5	
5:45 AM	1		5		6	
6:00 AM	0	8	8	43	8	51
6:15 AM	1		7		8	
6:30 AM	1		13		14	
6:45 AM	6		15		21	
7:00 AM	9	83	21	113	30	196
7:15 AM	18	87	26	47	44	
7:30 AM	36		28		64	
7:45 AM	20		38		58	
8:00 AM	13	25	17	56	30	81
8:15 AM	4		16		20	
8:30 AM	5		11		16	
8:45 AM	3		12		15	
9:00 AM	4	19	10	43	14	62
9:15 AM	9		12		21	
9:30 AM	4		12		16	
9:45 AM	2		9		11	
10:00 AM	3	19	13	37	16	56
10:15 AM	5		8		13	
10:30 AM	3		8		11	
10:45 AM	8		8		16	
11:00 AM	4	35	8	30	12	65
11:15 AM	10		9		19	
11:30 AM	8		9		17	
11:45 AM	13		4		17	

Interval Start	SB		NB		Combined	
12:00 PM	17	38	12	45	29	83
12:15 PM	10		5		15	
12:30 PM	6		15		21	
12:45 PM	5		13		18	
1:00 PM	5	39	8	28	13	67
1:15 PM	14		7		21	
1:30 PM	6		6		12	
1:45 PM	14		7		21	
2:00 PM	13	91	7	63	20	154
2:15 PM	41		11		52	
2:30 PM	26		16		42	
2:45 PM	11		29		40	
3:00 PM	20	56	11	42	31	98
3:15 PM	16		13		29	
3:30 PM	11		12		23	
3:45 PM	9		6		15	
4:00 PM	19	67	10	45	29	112
4:15 PM	12		9		21	
4:30 PM	18		12		30	
4:45 PM	18		14		32	
5:00 PM	32	109	14	52	46	161
5:15 PM	26		12		38	
5:30 PM	19		15		34	
5:45 PM	32		11		43	
6:00 PM	17	66	11	49	28	115
6:15 PM	13		14		27	
6:30 PM	17		12		29	
6:45 PM	19		12		31	
7:00 PM	7	41	6	26	13	67
7:15 PM	6		5		11	
7:30 PM	11		9		20	
7:45 PM	17		6		23	
8:00 PM	10	35	0	12	10	47
8:15 PM	11		4		15	
8:30 PM	6		5		11	
8:45 PM	8		3		11	
9:00 PM	9	24	4	8	13	32
9:15 PM	9		2		11	
9:30 PM	4		1		5	
9:45 PM	2		1		3	
10:00 PM	1	8	0	5	1	13
10:15 PM	4		3		7	
10:30 PM	3		1		4	
10:45 PM	0		1		1	
11:00 PM	2	5	0	3	2	8
11:15 PM	1		1		2	
11:30 PM	1		1		2	
11:45 PM	1		1		2	

7AM
SB 83
NB 47

Volume Totals

	SB	NB	Combined
12:00 AM - 12:00 PM	197 (36.4%)	344 (63.6%)	541
12:00 PM - 12:00 AM	579 (60.5%)	378 (39.5%)	957
24 Hours	776 (51.8%)	722 (48.2%)	1498

Peak Hours

	SB	NB	Combined
12:00 AM - 12:00 PM	7:15 AM	7:00 AM	7:00 AM
Volume	87	113	196
Factor	0.60	0.74	0.77
12:00 PM - 12:00 AM	5:00 PM	2:30 PM	2:15 PM
Volume	109	69	165
Factor	0.85	0.59	0.79

MIKE McCLUSKEY - WEE COUNT LLC
1110 E. EXCELSIOR RD.
SP0KANE WA. 99224
(509) 979-3331

WOODLAWN DR. :
N. OF 40TH :

Site: SPOKANE VALLEY
3/11/2015
Wednesday

Daily Volume

Interval Start	SB		NB		Combined	
12:00 AM	0	0	0	0	0	0
12:15 AM	0		0		0	
12:30 AM	0		0		0	
12:45 AM	0		0		0	
1:00 AM	0	0	0	0	0	0
1:15 AM	0		0		0	
1:30 AM	0		0		0	
1:45 AM	0		0		0	
2:00 AM	0	0	0	0	0	0
2:15 AM	0		0		0	
2:30 AM	0		0		0	
2:45 AM	0		0		0	
3:00 AM	0	0	0	0	0	0
3:15 AM	0		0		0	
3:30 AM	0		0		0	
3:45 AM	0		0		0	
4:00 AM	0	0	0	0	0	0
4:15 AM	0		0		0	
4:30 AM	0		0		0	
4:45 AM	0		0		0	
5:00 AM	0	2	0	1	0	3
5:15 AM	1		0		1	
5:30 AM	1		0		1	
5:45 AM	0		1		1	
6:00 AM	1	7	2	3	3	10
6:15 AM	2		1		3	
6:30 AM	1		0		1	
6:45 AM	3		0		3	
7:00 AM	8	115	7	67	15	182
7:15 AM	24		6		30	
7:30 AM	49		24		73	
7:45 AM	34		30		64	
8:00 AM	16	50	12	36	28	86
8:15 AM	2		8		10	
8:30 AM	12		6		18	
8:45 AM	20		10		30	
9:00 AM	12	21	7	21	19	42
9:15 AM	4		4		8	
9:30 AM	2		3		5	
9:45 AM	3		7		10	
10:00 AM	3	8	5	18	8	26
10:15 AM	1		2		3	
10:30 AM	1		7		8	
10:45 AM	3		4		7	
11:00 AM	0	15	2	15	2	30
11:15 AM	4		4		8	
11:30 AM	6		5		11	
11:45 AM	5		4		9	

Interval Start	SB		NB		Combined	
12:00 PM	9	23	7	21	16	44
12:15 PM	7		5		12	
12:30 PM	4		5		9	
12:45 PM	3		4		7	
1:00 PM	5	21	9	18	14	39
1:15 PM	5		3		8	
1:30 PM	2		2		4	
1:45 PM	9		4		13	
2:00 PM	5	66	4	57	9	123
2:15 PM	27		4		31	
2:30 PM	29		17		46	
2:45 PM	5		32		37	
3:00 PM	17	29	9	41	26	70
3:15 PM	5		12		17	
3:30 PM	1		13		14	
3:45 PM	6		7		13	
4:00 PM	11	40	7	40	18	80
4:15 PM	6		8		14	
4:30 PM	15		14		29	
4:45 PM	8		11		19	
5:00 PM	18	41	15	32	33	73
5:15 PM	10		8		18	
5:30 PM	7		7		14	
5:45 PM	6		2		8	
6:00 PM	5	17	6	13	11	30
6:15 PM	2		3		5	
6:30 PM	5		2		7	
6:45 PM	5		2		7	
7:00 PM	1	14	6	20	7	34
7:15 PM	5		3		8	
7:30 PM	2		8		10	
7:45 PM	6		3		9	
8:00 PM	1	6	0	5	1	11
8:15 PM	3		1		4	
8:30 PM	0		0		0	
8:45 PM	2		4		6	
9:00 PM	0	4	5	9	5	13
9:15 PM	3		1		4	
9:30 PM	1		2		3	
9:45 PM	0		1		1	
10:00 PM	0	1	0	3	0	4
10:15 PM	1		1		2	
10:30 PM	0		1		1	
10:45 PM	0		1		1	
11:00 PM	0	1	0	1	0	2
11:15 PM	0		0		0	
11:30 PM	1		0		1	
11:45 PM	0		1		1	

Volume Totals

	SB	NB	Combined
12:00 AM - 12:00 PM	218 (57.5%)	161 (42.5%)	379
12:00 PM - 12:00 AM	263 (50.3%)	260 (49.7%)	523
24 Hours	481 (53.3%)	421 (46.7%)	902

Peak Hours

	SB	NB	Combined
12:00 AM - 12:00 PM	7:15 AM	7:30 AM	7:15 AM
Volume	123	74	195
Factor	0.63	0.62	0.67
12:00 PM - 12:00 AM	2:15 PM	2:30 PM	2:15 PM
Volume	78	70	140
Factor	0.67	0.55	0.76

MIKE McCLUSKEY - WEE COUNT LLC
1110 E. EXCELSIOR RD.
SPOKANE WA. 99224
(509) 979-3331

32TH :
W. OF WOODLAWN :
20 MPH :

Site: SPOKANE VALLEY
3/11/2015
Wednesday

Daily Volume

Interval Start	WB		EB		Combined		Interval Start	WB		EB		Combined	
12:00 AM	4	16	3	20	7	36	12:00 PM	45	222	59	232	104	454
12:15 AM	6		3		9		12:15 PM	73		55		128	
12:30 AM	3		8		11		12:30 PM	52		56		108	
12:45 AM	3		6		9		12:45 PM	52		62		114	
1:00 AM	1	9	1	8	2	17	1:00 PM	38	213	60	245	98	458
1:15 AM	2		4		6		1:15 PM	59		57		116	
1:30 AM	5		1		6		1:30 PM	48		58		106	
1:45 AM	1		2		3		1:45 PM	68		70		138	
2:00 AM	2	4	3	11	5	15	2:00 PM	83	287	73	476	156	763
2:15 AM	1		2		3		2:15 PM	66		199		265	
2:30 AM	1		4		5		2:30 PM	65		116		181	
2:45 AM	0		2		2		2:45 PM	73		88		161	
3:00 AM	3	7	2	8	5	15	3:00 PM	99	326	82	387	181	713
3:15 AM	1		1		2		3:15 PM	70		114		184	
3:30 AM	3		2		5		3:30 PM	70		103		173	
3:45 AM	0		3		3		3:45 PM	87		88		175	
4:00 AM	1	22	1	19	2	41	4:00 PM	81	343	100	413	181	756
4:15 AM	5		4		9		4:15 PM	81		86		167	
4:30 AM	10		7		17		4:30 PM	83		110		193	
4:45 AM	6		7		13		4:45 PM	98		117		215	
5:00 AM	12	54	12	68	24	122	5:00 PM	91	468	123	498	214	966
5:15 AM	12		13		25		5:15 PM	119		135		254	
5:30 AM	14		24		38		5:30 PM	140		116		256	
5:45 AM	16		19		35		5:45 PM	118		124		242	
6:00 AM	31	165	24	131	55	296	6:00 PM	77	308	92	326	169	634
6:15 AM	36		36		72		6:15 PM	106		75		181	
6:30 AM	41		38		79		6:30 PM	65		91		156	
6:45 AM	57		33		90		6:45 PM	60		68		128	
7:00 AM	99	464	54	342	153	806	7:00 PM	65	211	57	353	122	564
7:15 AM	151		102		253		7:15 PM	55		168		223	
7:30 AM	142		131		273		7:30 PM	35		69		104	
7:45 AM	72		55		127		7:45 PM	56		59		115	
8:00 AM	53	247	49	213	102	460	8:00 PM	38	189	38	189	76	378
8:15 AM	50		41		91		8:15 PM	51		49		100	
8:30 AM	75		46		121		8:30 PM	45		50		95	
8:45 AM	69		77		146		8:45 PM	55		52		107	
9:00 AM	60	209	83	246	143	455	9:00 PM	33	112	38	99	71	211
9:15 AM	49		60		109		9:15 PM	33		26		59	
9:30 AM	41		48		89		9:30 PM	28		12		40	
9:45 AM	59		55		114		9:45 PM	18		23		41	
10:00 AM	36	161	48	188	84	349	10:00 PM	20	42	21	55	41	97
10:15 AM	42		43		85		10:15 PM	10		16		26	
10:30 AM	44		39		83		10:30 PM	5		15		20	
10:45 AM	39		58		97		10:45 PM	7		3		10	
11:00 AM	51	232	61	255	112	487	11:00 PM	10	40	13	34	23	74
11:15 AM	76		55		131		11:15 PM	16		12		28	
11:30 AM	57		67		124		11:30 PM	6		3		9	
11:45 AM	48		72		120		11:45 PM	8		6		14	

Volume Totals

	WB	EB	Combined
12:00 AM - 12:00 PM	1590 (51.3%)	1509 (48.7%)	3099
12:00 PM - 12:00 AM	2761 (45.5%)	3307 (54.5%)	6068
24 Hours	4351 (47.5%)	4816 (52.5%)	9167

Peak Hours

	WB	EB	Combined
12:00 AM - 12:00 PM	7:00 AM	7:00 AM	7:00 AM
Volume	464	342	806
Factor	0.77	0.65	0.74
12:00 PM - 12:00 AM	5:00 PM	5:00 PM	5:00 PM
Volume	468	498	966
Factor	0.84	0.92	0.94

MIKE McCLUSKEY - WEE COUNT LLC
1110 E. EXCELSIOR RD.
SPOKANE WA. 99224
(509) 979-3331

PINES :
N. OF 38TH :
20 MPH :

Site: SPOKANE VALLEY
3/18/2015
Wednesday

Daily Volume

Interval Start	SB		NB		Combined	
12:00 AM	4	7	4	16	8	23
12:15 AM	2		12		14	
12:30 AM	1		0		1	
12:45 AM	0		0		0	
1:00 AM	0	0	0	1	0	1
1:15 AM	0		0		0	
1:30 AM	0		1		1	
1:45 AM	0		0		0	
2:00 AM	0	5	1	1	1	6
2:15 AM	0		0		0	
2:30 AM	4		0		4	
2:45 AM	1		0		1	
3:00 AM	0	0	1	1	1	1
3:15 AM	0		0		0	
3:30 AM	0		0		0	
3:45 AM	0		0		0	
4:00 AM	0	1	0	2	0	3
4:15 AM	0		0		0	
4:30 AM	1		2		3	
4:45 AM	0		0		0	
5:00 AM	0	1	0	16	0	17
5:15 AM	0		5		5	
5:30 AM	0		5		5	
5:45 AM	1		6		7	
6:00 AM	4	21	3	31	7	52
6:15 AM	5		9		14	
6:30 AM	8		10		18	
6:45 AM	4		9		13	
7:00 AM	20	103	41	207	61	310
7:15 AM	13		46		59	
7:30 AM	34		64		98	
7:45 AM	36		56		92	
8:00 AM	24	67	45	124	69	191
8:15 AM	12		19		31	
8:30 AM	15		26		41	
8:45 AM	16		34		50	
9:00 AM	23	49	27	78	50	127
9:15 AM	4		18		22	
9:30 AM	12		18		30	
9:45 AM	10		15		25	
10:00 AM	9	39	9	48	18	87
10:15 AM	14		10		24	
10:30 AM	7		16		23	
10:45 AM	9		13		22	
11:00 AM	12	69	18	76	30	145
11:15 AM	18		21		39	
11:30 AM	15		21		36	
11:45 AM	24		16		40	

Interval Start	SB		NB		Combined	
12:00 PM	19	69	11	52	30	121
12:15 PM	16		14		30	
12:30 PM	16		17		33	
12:45 PM	18		10		28	
1:00 PM	15	60	24	71	39	131
1:15 PM	15		16		31	
1:30 PM	14		18		32	
1:45 PM	16		13		29	
2:00 PM	15	105	13	97	28	202
2:15 PM	29		16		45	
2:30 PM	38		24		62	
2:45 PM	23		44		67	
3:00 PM	29	129	30	88	59	217
3:15 PM	36		19		55	
3:30 PM	34		12		46	
3:45 PM	30		27		57	
4:00 PM	23	112	24	86	47	198
4:15 PM	26		29		55	
4:30 PM	30		19		49	
4:45 PM	33		14		47	
5:00 PM	40	109	31	83	71	192
5:15 PM	23		20		43	
5:30 PM	22		13		35	
5:45 PM	24		19		43	
6:00 PM	18	80	16	80	34	160
6:15 PM	24		29		53	
6:30 PM	19		20		39	
6:45 PM	19		15		34	
7:00 PM	13	48	18	32	31	80
7:15 PM	14		5		19	
7:30 PM	11		2		13	
7:45 PM	10		7		17	
8:00 PM	16	47	5	19	21	66
8:15 PM	10		5		15	
8:30 PM	10		4		14	
8:45 PM	11		5		16	
9:00 PM	11	33	5	15	16	48
9:15 PM	2		3		5	
9:30 PM	7		3		10	
9:45 PM	13		4		17	
10:00 PM	7	16	3	7	10	23
10:15 PM	5		1		6	
10:30 PM	3		2		5	
10:45 PM	1		1		2	
11:00 PM	5	8	1	4	6	12
11:15 PM	0		2		2	
11:30 PM	2		0		2	
11:45 PM	1		1		2	

318 — 318
129
447 x .6 = 269 MS
.4 = 179 ES

Volume Totals

	SB	NB	Combined
12:00 AM - 12:00 PM	362 (37.6%)	601 (62.4%)	963
12:00 PM - 12:00 AM	816 (56.3%)	634 (43.7%)	1450
24 Hours	1178 (48.8%)	1235 (51.2%)	2413

Peak Hours

	SB	NB	Combined
12:00 AM - 12:00 PM	7:15 AM	7:15 AM	7:15 AM
Volume	107	211	318
Factor	0.74	0.82	0.81
12:00 PM - 12:00 AM	3:00 PM	2:30 PM	2:30 PM
Volume	129	117	243
Factor	0.90	0.66	0.91

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1110 E. EXCELSIOR RD.
SPOKANE WA. 99224
(509) 979-3331

PINES :
N. OF 38TH :
20 MPH :

Site: SPOKANE VALLEY
3/19/2015
Thursday

Daily Volume

Interval Start	SB		NB		Combined	
12:00 AM	0	4	0	1	0	5
12:15 AM	1		0		1	
12:30 AM	1		0		1	
12:45 AM	2		1		3	
1:00 AM	1	1	0	1	1	2
1:15 AM	0		0		0	
1:30 AM	0		1		1	
1:45 AM	0		0		0	
2:00 AM	0	3	0	2	0	5
2:15 AM	1		2		3	
2:30 AM	2		0		2	
2:45 AM	0		0		0	
3:00 AM	2	2	1	2	3	4
3:15 AM	0		0		0	
3:30 AM	0		1		1	
3:45 AM	0		0		0	
4:00 AM	0	2	0	1	0	3
4:15 AM	0		1		1	
4:30 AM	0		0		0	
4:45 AM	2		0		2	
5:00 AM	0	2	4	17	4	19
5:15 AM	0		1		1	
5:30 AM	0		7		7	
5:45 AM	2		5		7	
6:00 AM	2	12	7	50	9	62
6:15 AM	5		14		19	
6:30 AM	4		11		15	
6:45 AM	1		18		19	
7:00 AM	9	41	9	81	18	122
7:15 AM	9		21		30	
7:30 AM	10		25		35	
7:45 AM	13		26		39	
8:00 AM	9	86	32	133	41	219
8:15 AM	10		17		27	
8:30 AM	33		31		64	
8:45 AM	34		53		87	
9:00 AM	26	66	31	110	57	176
9:15 AM	12		16		28	
9:30 AM	10		35		45	
9:45 AM	18		28		46	
10:00 AM	16	57	26	75	42	132
10:15 AM	9		13		22	
10:30 AM	17		22		39	
10:45 AM	15		14		29	
11:00 AM	13	54	18	66	31	120
11:15 AM	18		18		36	
11:30 AM	10		15		25	
11:45 AM	13		15		28	

Interval Start	SB		NB		Combined	
12:00 PM	23	88	16	74	39	162
12:15 PM	24		19		43	
12:30 PM	19		19		38	
12:45 PM	22		20		42	
1:00 PM	13	58	20	67	33	125
1:15 PM	15		15		30	
1:30 PM	13		20		33	
1:45 PM	17		12		29	
2:00 PM	13	120	12	98	25	218
2:15 PM	30		14		44	
2:30 PM	50		14		64	
2:45 PM	27		58		85	
3:00 PM	34	145	21	77	55	222
3:15 PM	49		29		78	
3:30 PM	34		12		46	
3:45 PM	28		15		43	
4:00 PM	35	127	18	128	53	255
4:15 PM	33		36		69	
4:30 PM	33		46		79	
4:45 PM	26		28		54	
5:00 PM	40	156	24	134	64	290
5:15 PM	43		44		87	
5:30 PM	37		27		64	
5:45 PM	36		39		75	
6:00 PM	39	153	23	81	62	234
6:15 PM	31		32		63	
6:30 PM	41		14		55	
6:45 PM	42		12		54	
7:00 PM	17	70	32	62	49	132
7:15 PM	18		7		25	
7:30 PM	14		11		25	
7:45 PM	21		12		33	
8:00 PM	19	49	49	83	68	132
8:15 PM	20		22		42	
8:30 PM	5		9		14	
8:45 PM	5		3		8	
9:00 PM	11	26	3	10	14	36
9:15 PM	4		4		8	
9:30 PM	4		1		5	
9:45 PM	7		2		9	
10:00 PM	5	15	2	7	7	22
10:15 PM	3		1		4	
10:30 PM	5		2		7	
10:45 PM	2		2		4	
11:00 PM	1	5	2	4	3	9
11:15 PM	1		0		1	
11:30 PM	2		2		4	
11:45 PM	1		0		1	

Volume Totals

	SB	NB	Combined
12:00 AM - 12:00 PM	330 (38.0%)	539 (62.0%)	869
12:00 PM - 12:00 AM	1012 (55.1%)	825 (44.9%)	1837
24 Hours	1342 (49.6%)	1364 (50.4%)	2706

Peak Hours

	SB	NB	Combined
12:00 AM - 12:00 PM	8:30 AM	8:45 AM	8:30 AM
Volume	105	135	236
Factor	0.77	0.64	0.68
12:00 PM - 12:00 AM	2:30 PM	4:30 PM	5:00 PM
Volume	160	142	290
Factor	0.80	0.77	0.83

MIKE McCLUSKEY - WEE COUNT LLC
1110 E. EXCELSIOR RD.
SPOKANE WA. 99224
(509) 979-3331

40TH :
W. OF WOODLAWN :
25 MPH :

Site: SPOKANE VALLEY
3/12/2015
Thursday

Daily Volume

Interval Start	WB		EB		Combined	
12:00 AM	0	0	0	0	0	0
12:15 AM	0		0		0	
12:30 AM	0		0		0	
12:45 AM	0		0		0	
1:00 AM	0	0	0	0	0	0
1:15 AM	0		0		0	
1:30 AM	0		0		0	
1:45 AM	0		0		0	
2:00 AM	0	0	0	0	0	0
2:15 AM	0		0		0	
2:30 AM	0		0		0	
2:45 AM	0		0		0	
3:00 AM	1	1	0	0	1	1
3:15 AM	0		0		0	
3:30 AM	0		0		0	
3:45 AM	0		0		0	
4:00 AM	0	2	0	2	0	4
4:15 AM	1		0		1	
4:30 AM	0		1		1	
4:45 AM	1		1		2	
5:00 AM	1	3	0	0	1	3
5:15 AM	1		0		1	
5:30 AM	1		0		1	
5:45 AM	0		0		0	
6:00 AM	6	43	4	18	10	61
6:15 AM	8		3		11	
6:30 AM	15		5		20	
6:45 AM	14		6		20	
7:00 AM	18	78	8	54	26	132
7:15 AM	9		6		15	
7:30 AM	12		11		23	
7:45 AM	39		29		68	
8:00 AM	9	32	14	33	23	65
8:15 AM	6		3		9	
8:30 AM	6		5		11	
8:45 AM	11		11		22	
9:00 AM	15	22	10	21	25	43
9:15 AM	3		5		8	
9:30 AM	1		2		3	
9:45 AM	3		4		7	
10:00 AM	1	12	8	23	9	35
10:15 AM	4		5		9	
10:30 AM	4		7		11	
10:45 AM	3		3		6	
11:00 AM	9	22	6	23	15	45
11:15 AM	8		7		15	
11:30 AM	2		5		7	
11:45 AM	3		5		8	

Interval Start	WB		EB		Combined	
12:00 PM	8	27	3	13	11	40
12:15 PM	5		4		9	
12:30 PM	10		2		12	
12:45 PM	4		4		8	
1:00 PM	3	74	7	49	10	123
1:15 PM	36		4		40	
1:30 PM	22		11		33	
1:45 PM	13		27		40	
2:00 PM	19	50	8	41	27	91
2:15 PM	12		17		29	
2:30 PM	10		8		18	
2:45 PM	9		8		17	
3:00 PM	6	33	8	48	14	81
3:15 PM	7		9		16	
3:30 PM	5		13		18	
3:45 PM	15		18		33	
4:00 PM	8	26	13	56	21	82
4:15 PM	5		14		19	
4:30 PM	6		4		10	
4:45 PM	7		25		32	
5:00 PM	7	28	14	32	21	60
5:15 PM	4		9		13	
5:30 PM	6		5		11	
5:45 PM	11		4		15	
6:00 PM	5	21	7	35	12	56
6:15 PM	5		4		9	
6:30 PM	3		11		14	
6:45 PM	8		13		21	
7:00 PM	4	13	2	5	6	18
7:15 PM	2		1		3	
7:30 PM	4		2		6	
7:45 PM	3		0		3	
8:00 PM	2	11	4	6	6	17
8:15 PM	4		1		5	
8:30 PM	3		0		3	
8:45 PM	2		1		3	
9:00 PM	3	5	1	3	4	8
9:15 PM	0		1		1	
9:30 PM	2		0		2	
9:45 PM	0		1		1	
10:00 PM	0	0	0	1	0	1
10:15 PM	0		0		0	
10:30 PM	0		0		0	
10:45 PM	0		1		1	
11:00 PM	0	0	0	1	0	1
11:15 PM	0		0		0	
11:30 PM	0		1		1	
11:45 PM	0		0		0	

Volume Totals

	WB	EB	Combined
12:00 AM - 12:00 PM	215 (55.3%)	174 (44.7%)	389
12:00 PM - 12:00 AM	288 (49.8%)	290 (50.2%)	578
24 Hours	503 (52.0%)	464 (48.0%)	967

Peak Hours

	WB	EB	Combined
12:00 AM - 12:00 PM	7:00 AM	7:15 AM	7:00 AM
Volume	78	60	132
Factor	0.50	0.52	0.49
12:00 PM - 12:00 AM	1:15 PM	1:30 PM	1:15 PM
Volume	90	63	140
Factor	0.63	0.58	0.88

PRD LANDUSE DISTRIBUTION FIGURES
7A THROUGH 7H
8A THROUGH 8H

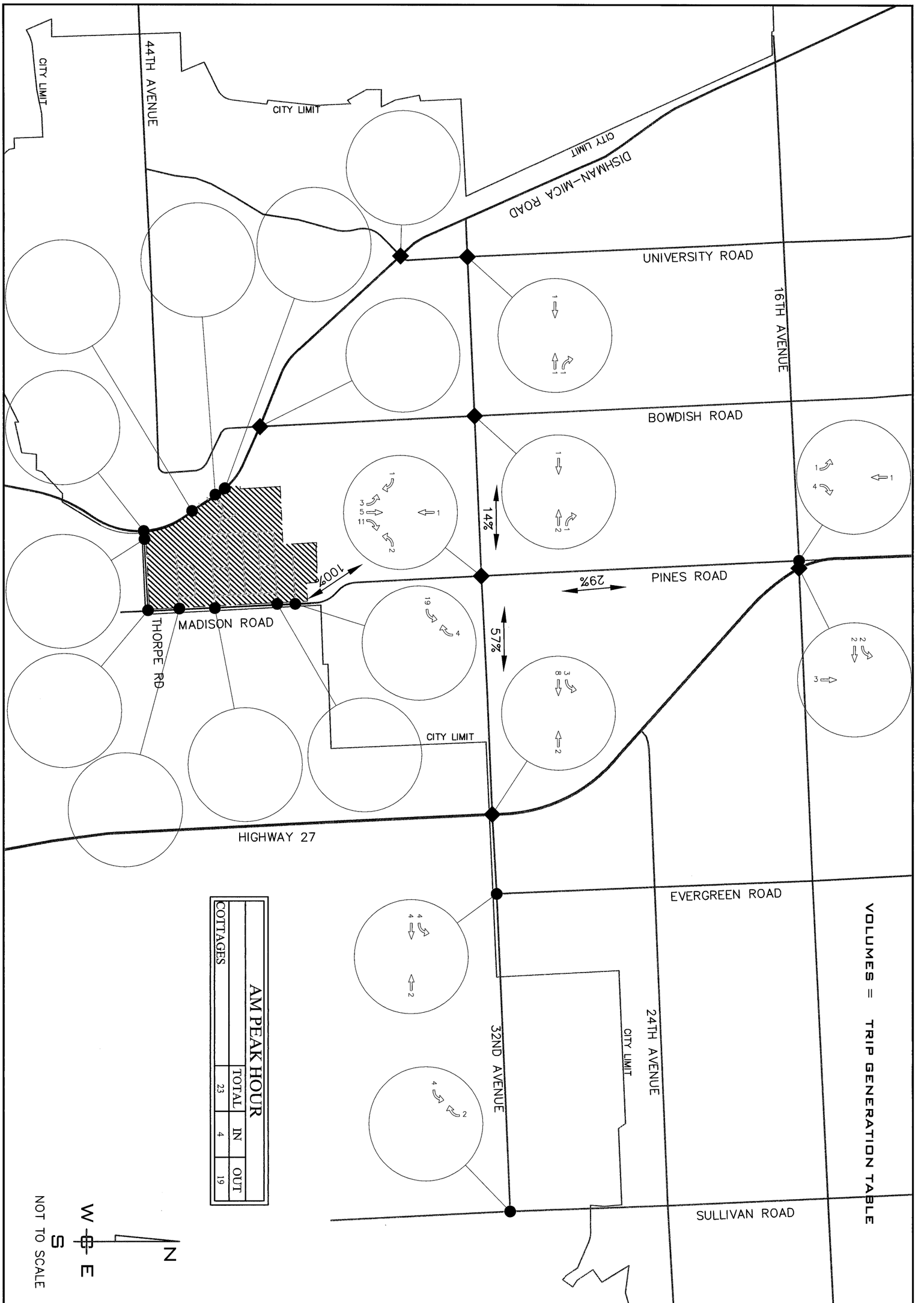

FIGURE 7A

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

AM COTTAGES TRIP DISTRIBUTION

PROJ #: 13-1166
DATE: 04/13/15
DRAWN: RMA
APPROVED: TRW

WCE
WHIPPLE CONSULTING ENGINEERS
CIVIL , STRUCTURAL AND
TRANSPORTATION ENGINEERING
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WASHINGTON 99216
PH: 509-893-2617 FAX: 509-926-0227

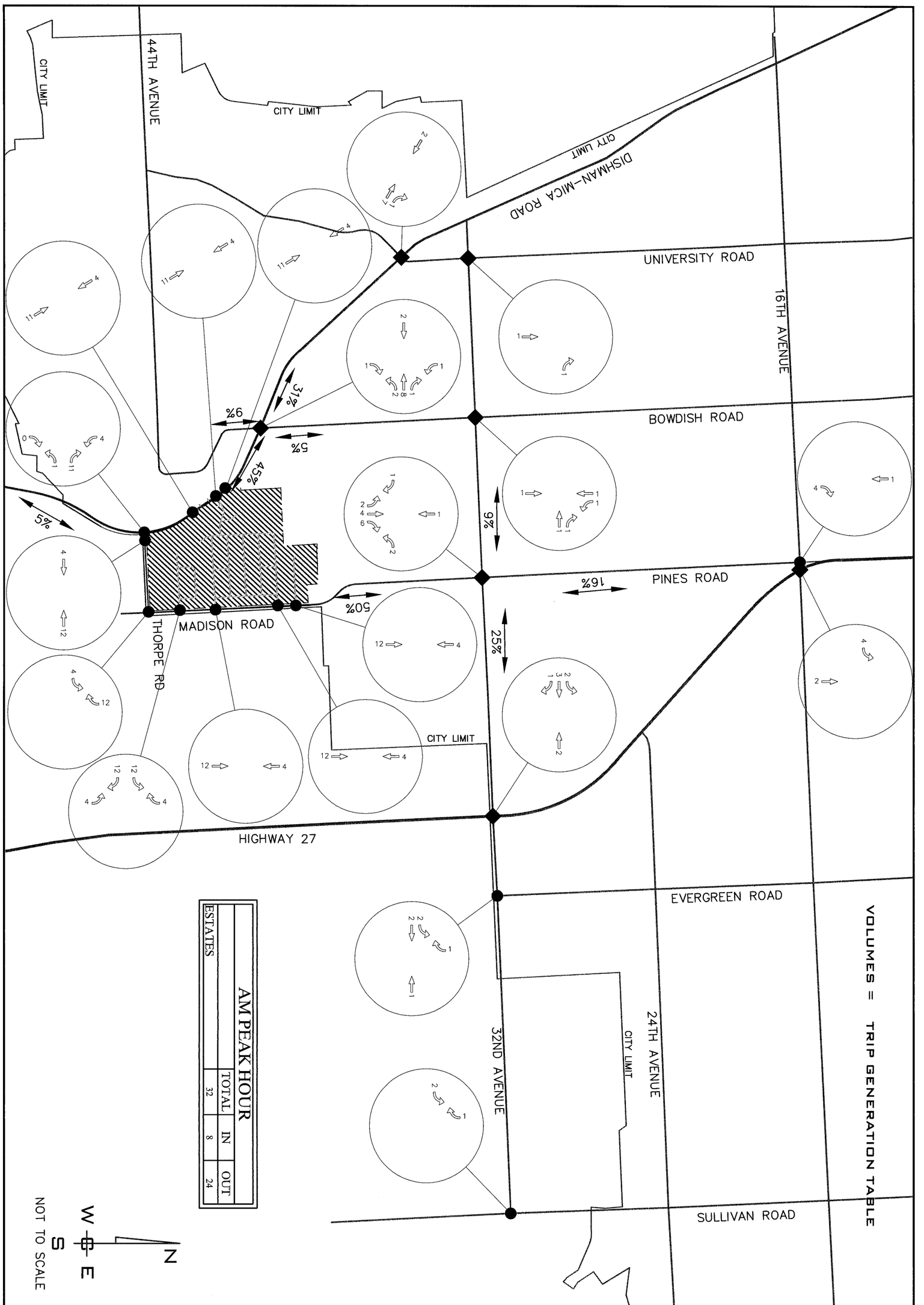

FIGURE 7B

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

AM ESTATES TRIP DISTRIBUTION

PROJ #: 13-1166
DATE: 04/13/15
DRAWN: RMA
APPROVED: TRW

WCE
WHIPPLE CONSULTING ENGINEERS
CIVIL, STRUCTURAL AND
TRANSPORTATION ENGINEERING
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WASHINGTON 99216
PH: 509-893-2617 FAX: 509-926-0227

P:\WCE_WORK\2013 WCE PROJECTS\2013-1166 Walker - Painted Hills GC\DWG\TRAFFIC 4-27-16.dwg, 9/13/2016 3:31:28 PM, Color C60 PCL 6

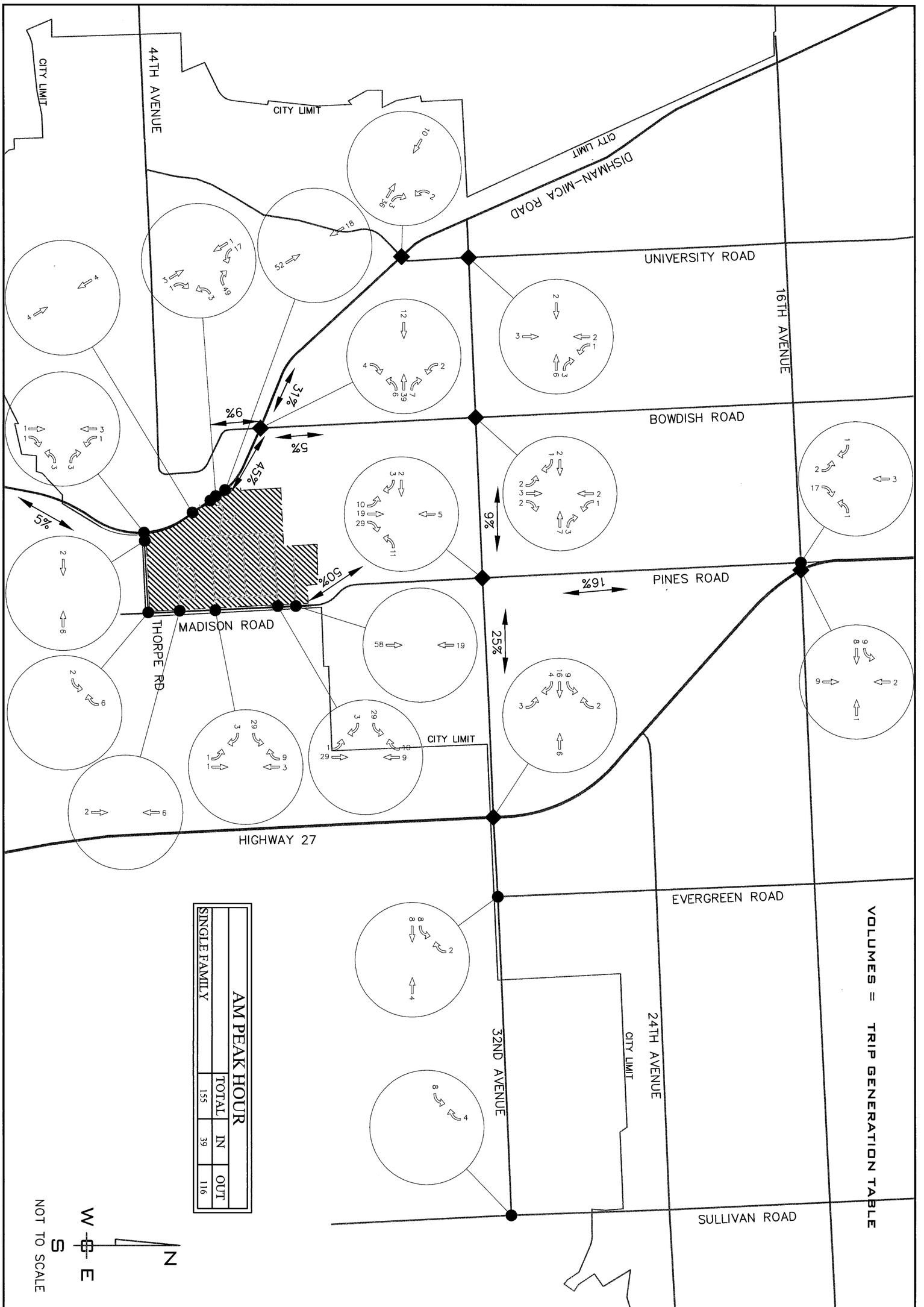

FIGURE 7C

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

AM SINGLE FAMILY TRIP DISTRIBUTION

PROJ #: 13-1166
DATE: 04/13/15
DRAWN: RMA
APPROVED: TRW

WCE
WHIPPLE CONSULTING ENGINEERS
CIVIL , STRUCTURAL AND
TRANSPORTATION ENGINEERING
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WASHINGTON 99216
PH: 509-893-2617 FAX: 509-926-0227

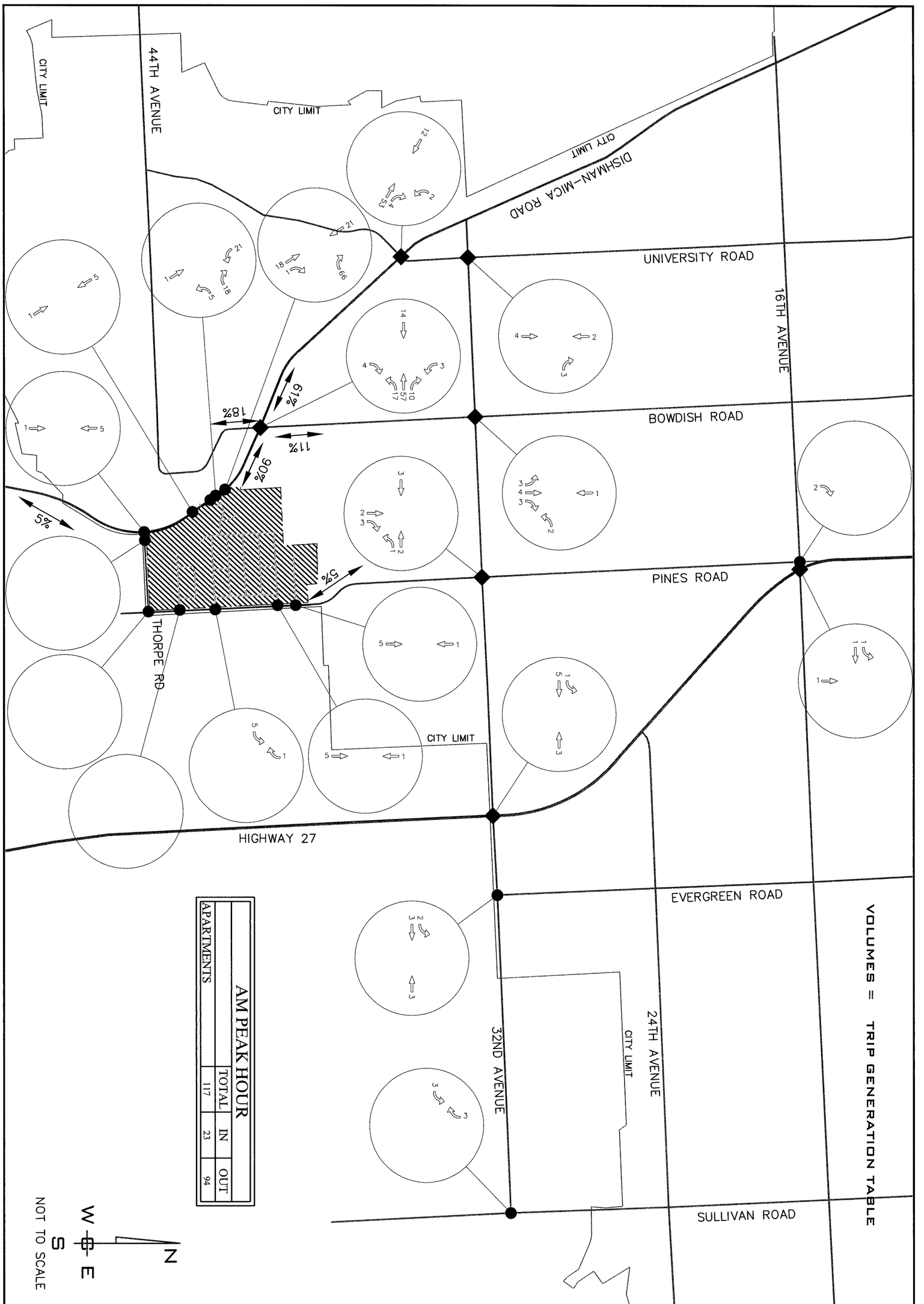

FIGURE 7D

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

AM APARTMENTS TRIP DISTRIBUTION

PROJ #: 13-1166
DATE: 04/13/15
DRAWN: RMA
APPROVED: TRW

WCE
WHIPPLE CONSULTING ENGINEERS
CIVIL, STRUCTURAL AND
TRANSPORTATION ENGINEERING
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WASHINGTON 99216
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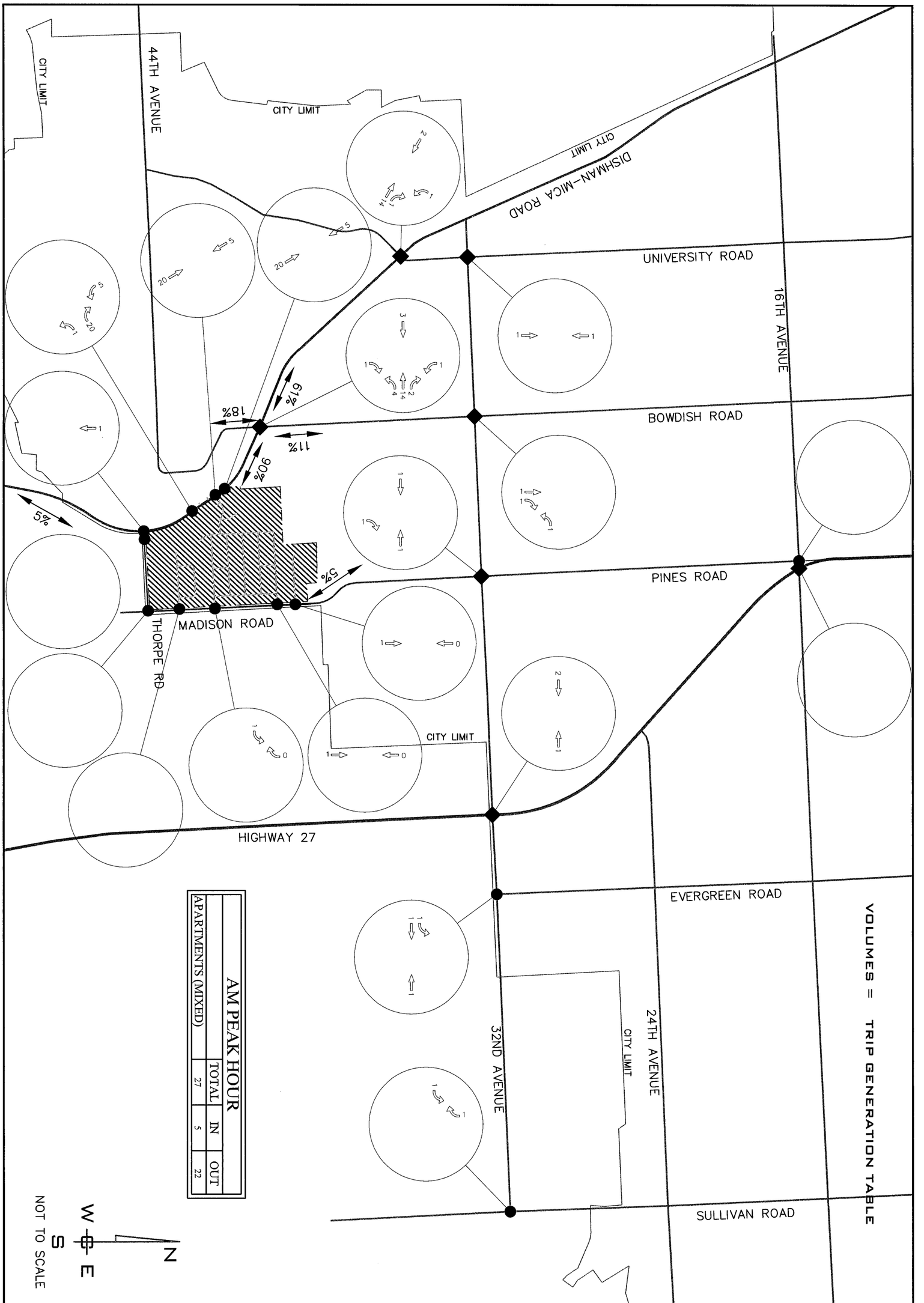

FIGURE 7E

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

AM APARTMENTS (MIXED) TRIP DISTRIBUTION

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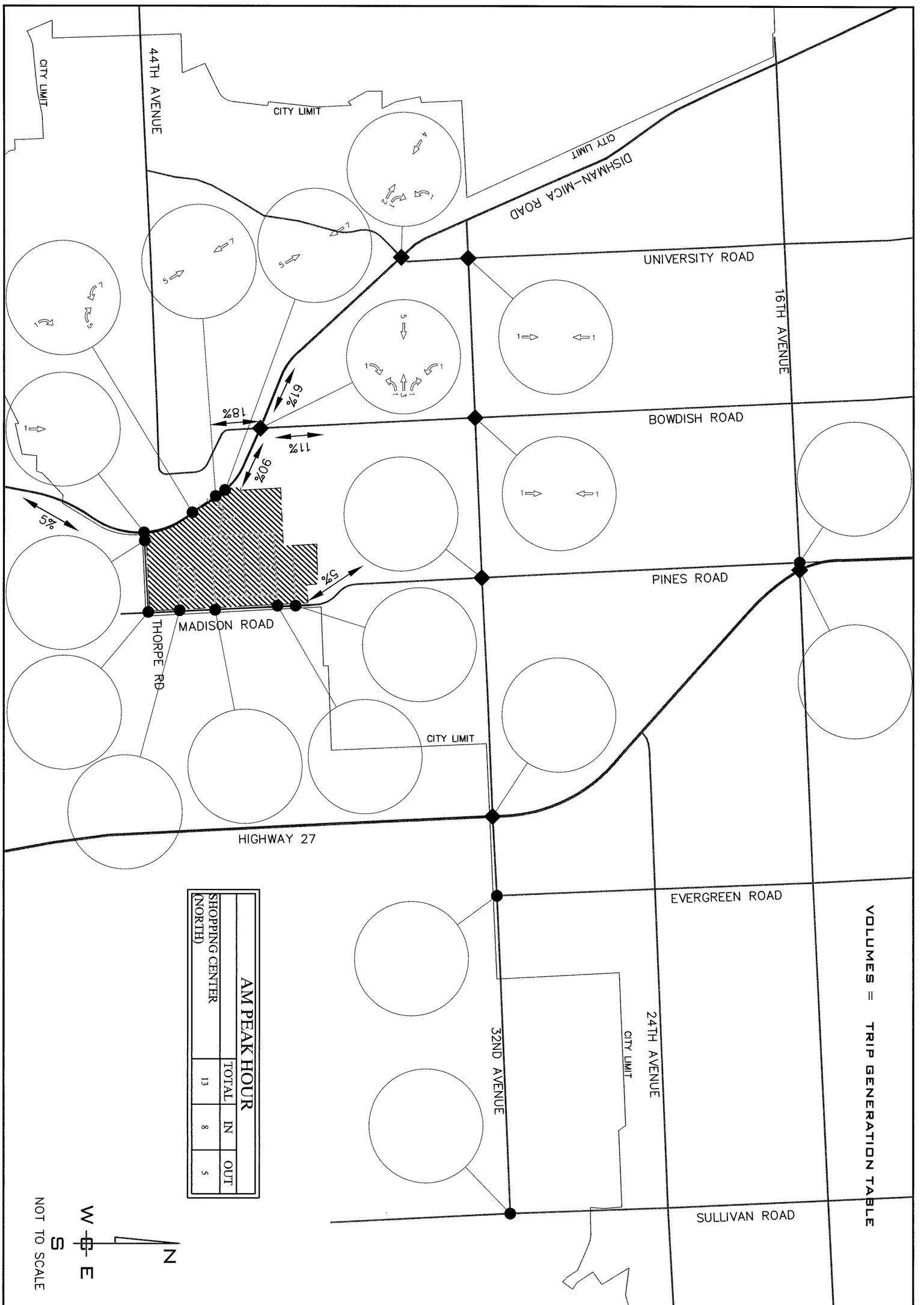

FIGURE 7F

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

AM SHOPPING CENTER TRIP DISTRIBUTION

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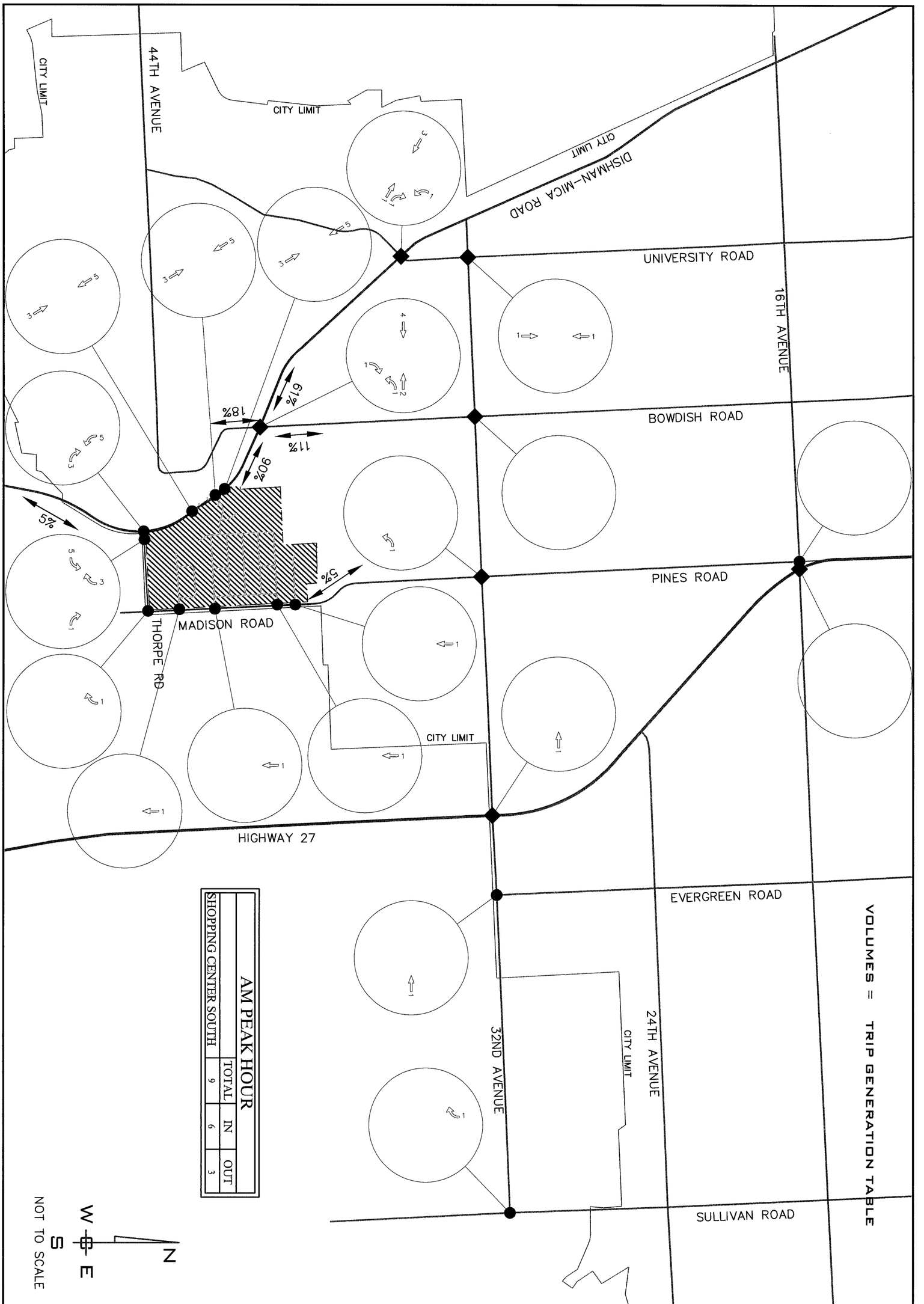

FIGURE 7G

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
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SPOKANE VALLEY, WASHINGTON

AM SHOPPING CENTER TRIP DISTRIBUTION

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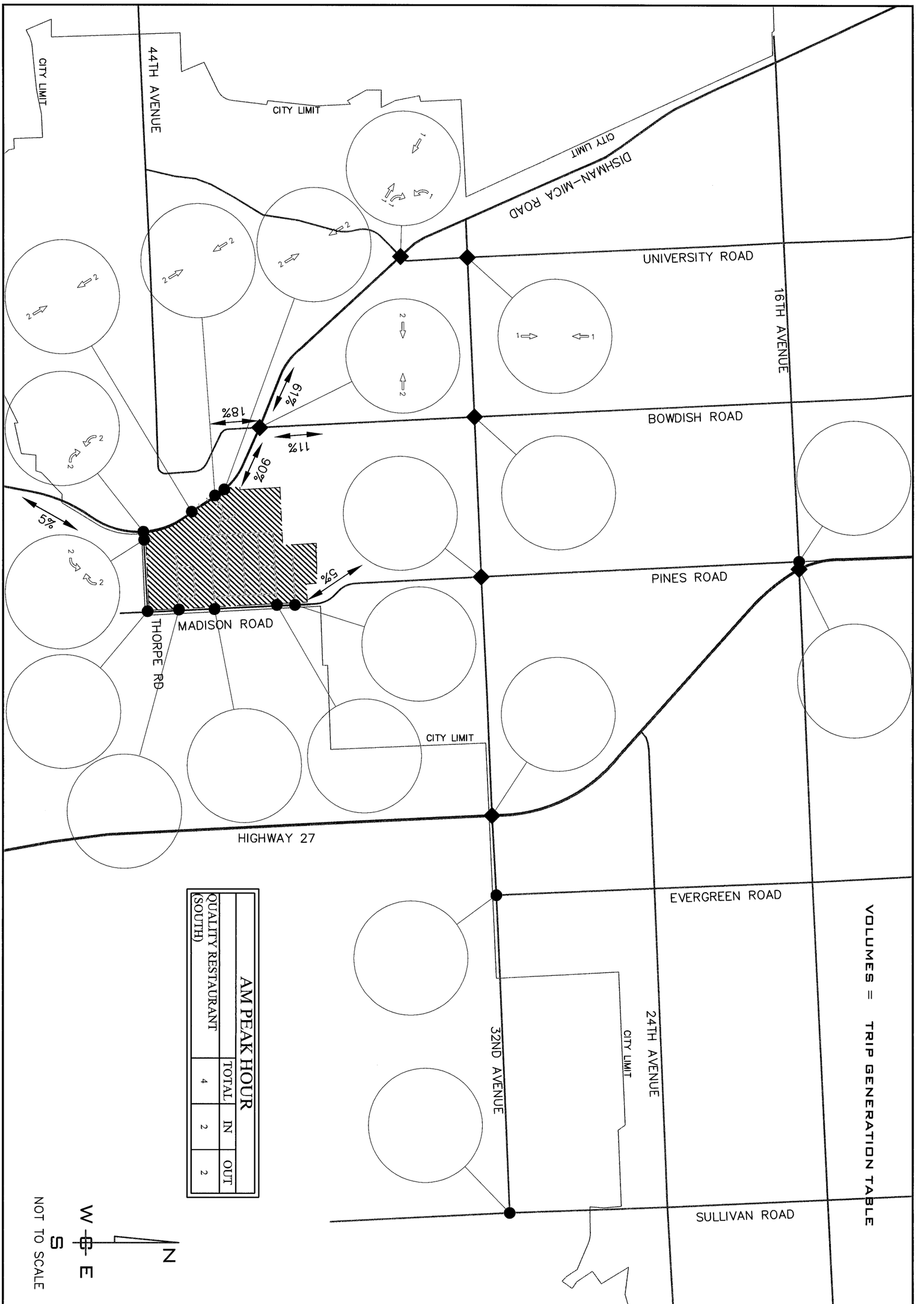

FIGURE 7H

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
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SPOKANE VALLEY, WASHINGTON

AM RESTAURANT TRIP DISTRIBUTION

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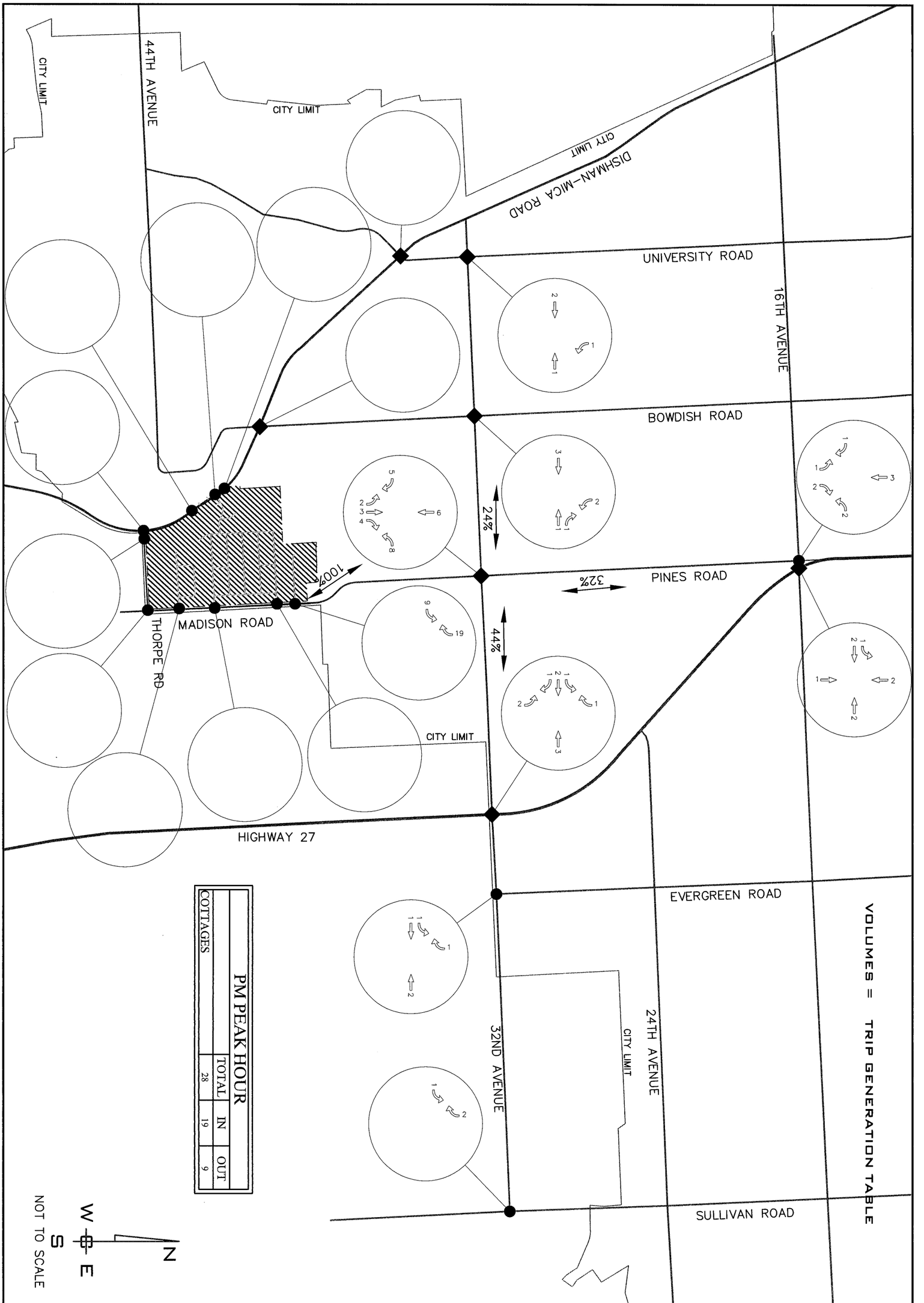

FIGURE 8A

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

PM COTTAGES TRIP DISTRIBUTION

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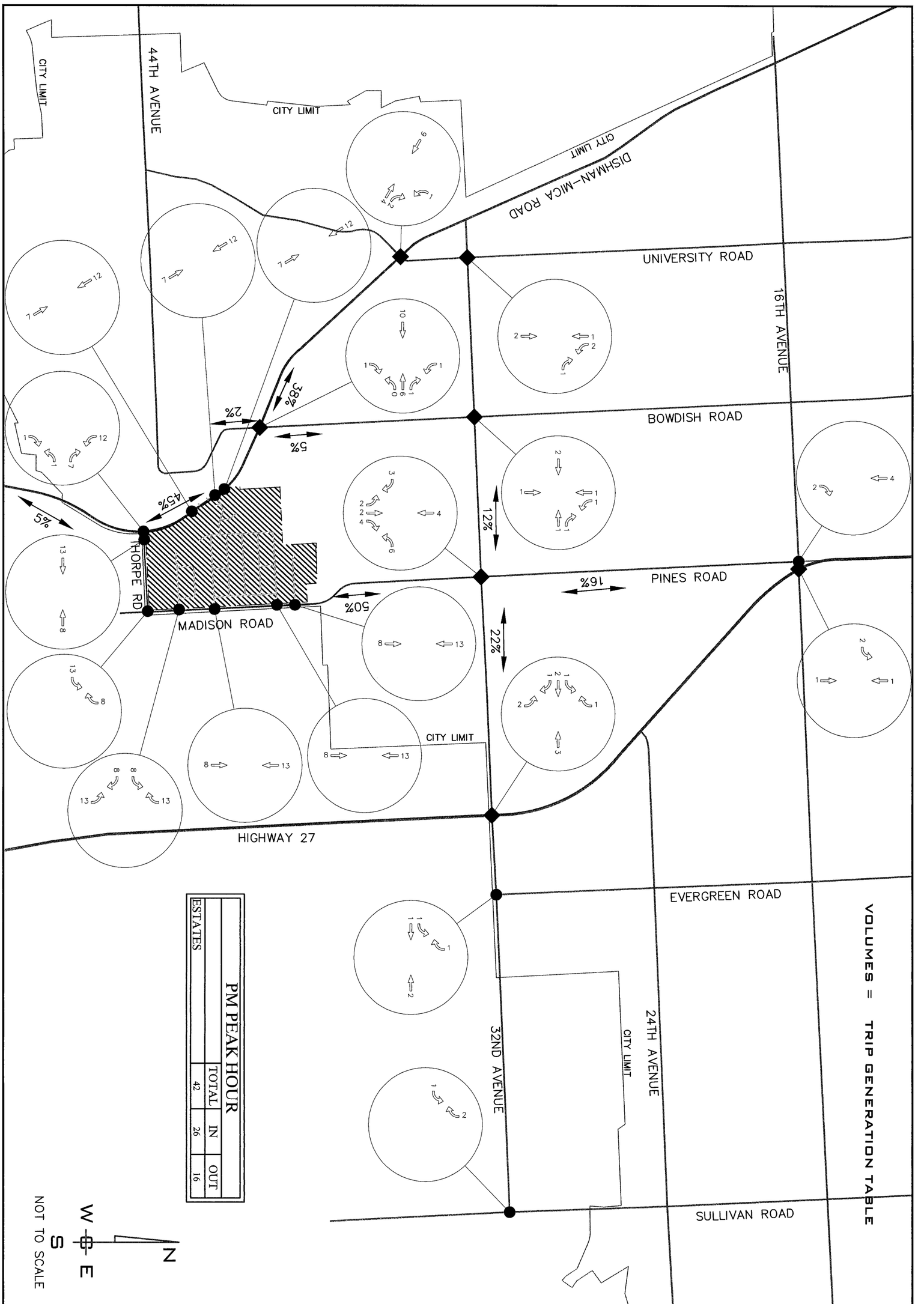

FIGURE 8B

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

PM ESTATES TRIP DISTRIBUTION

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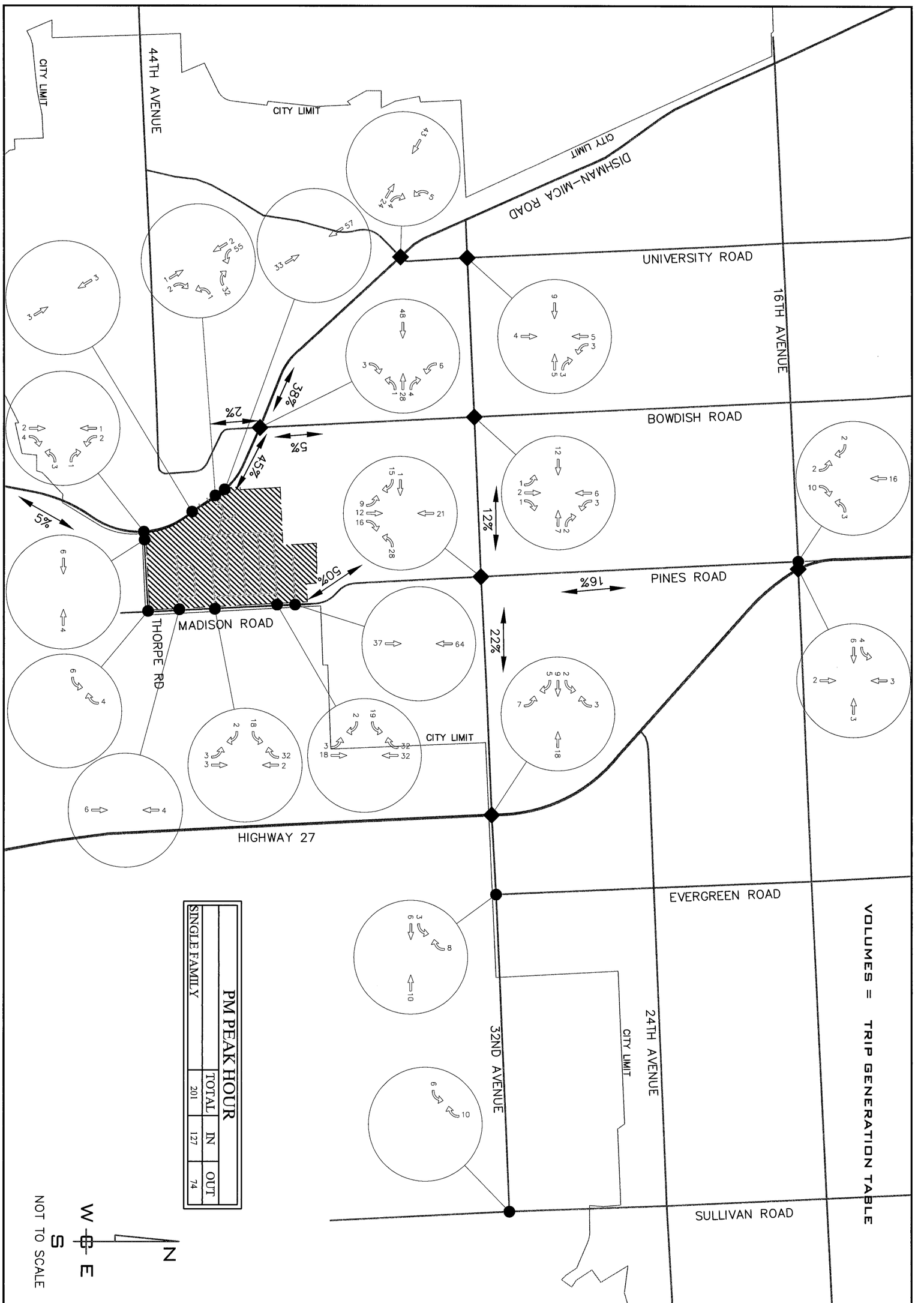

FIGURE 8C

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
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SPOKANE VALLEY, WASHINGTON

PM SINGLE FAMILY TRIP DISTRIBUTION

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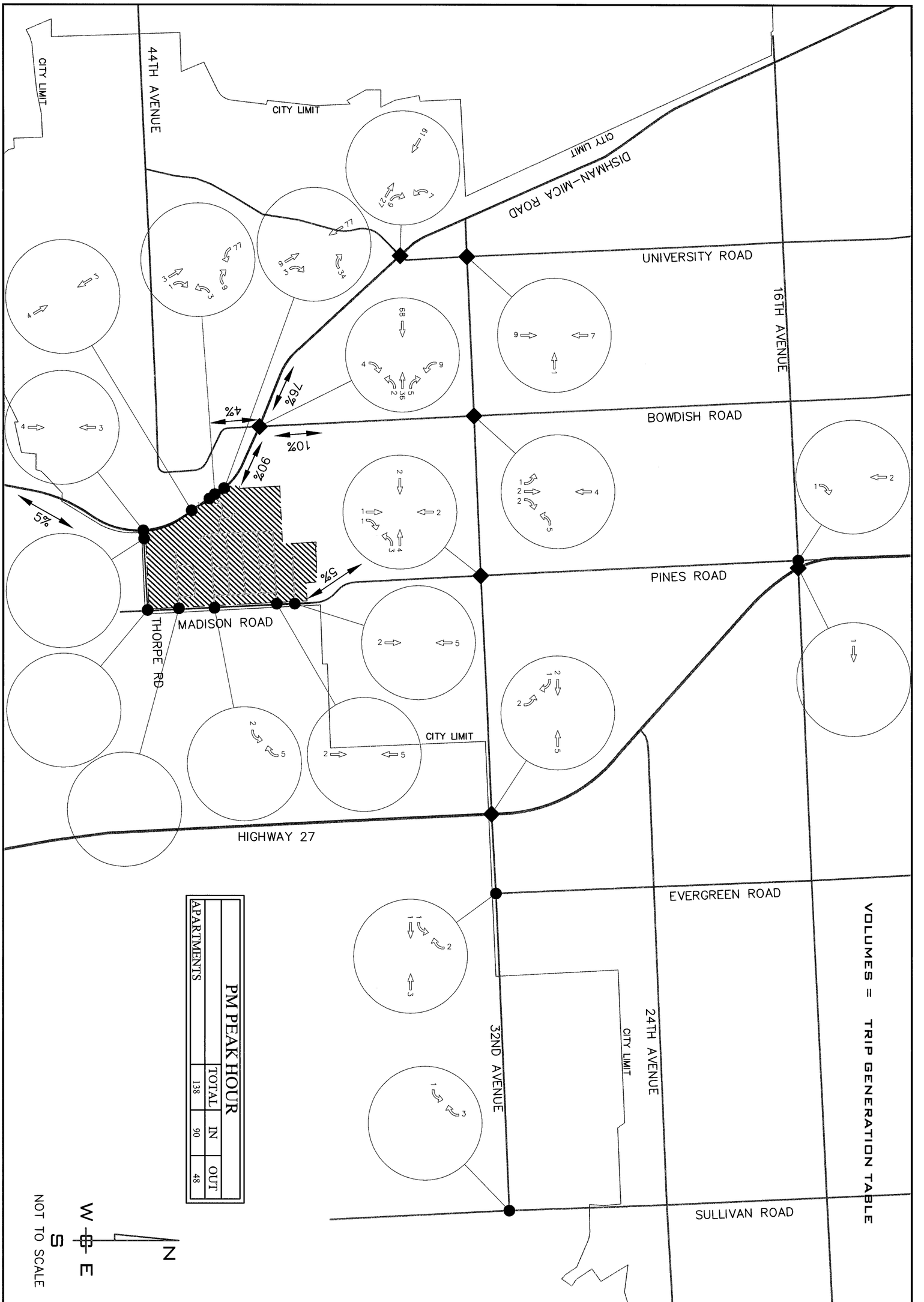

FIGURE 8D

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

PM APARTMENTS TRIP DISTRIBUTION

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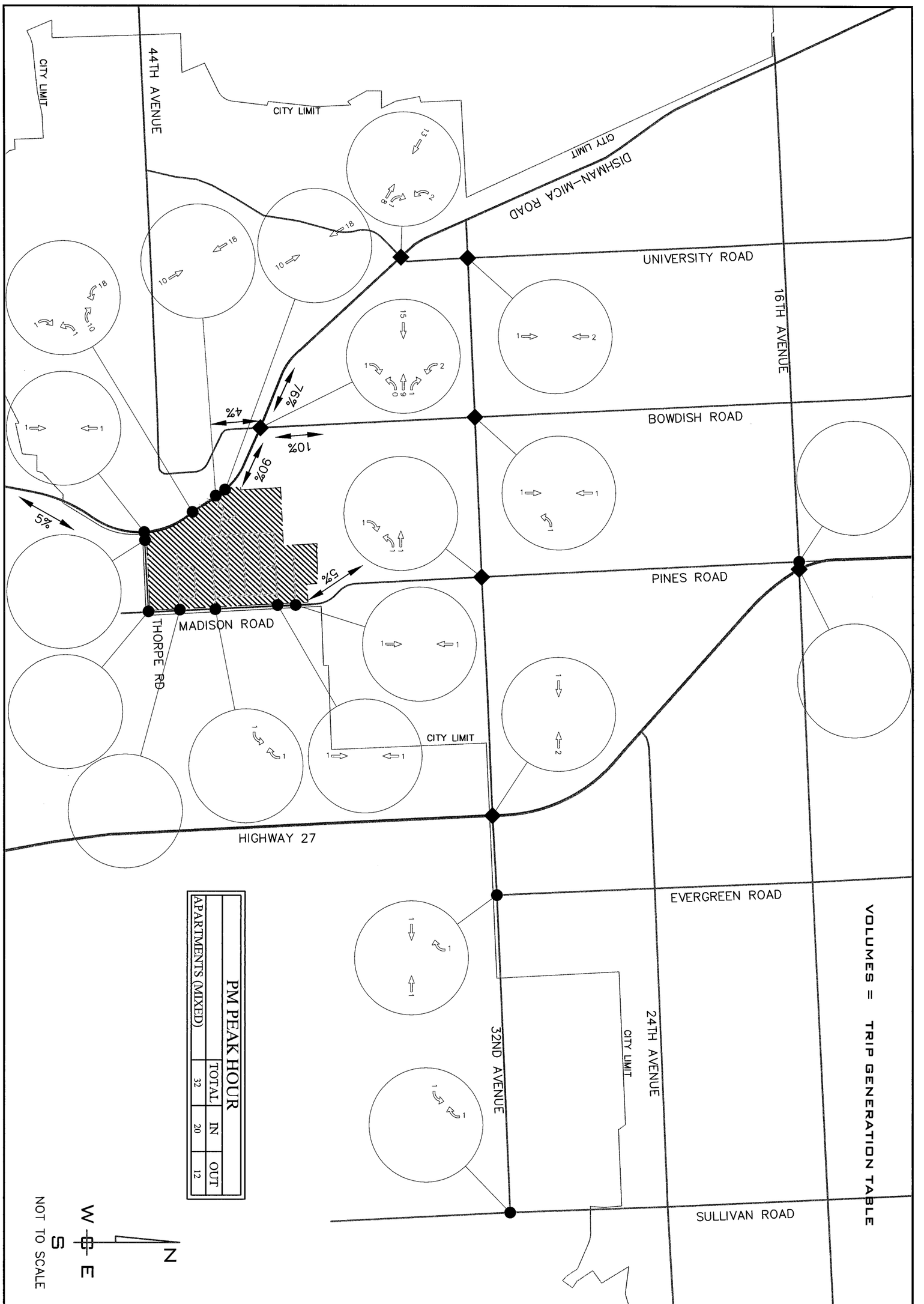

FIGURE 8E

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

PM APARTMENTS (MIXED) TRIP DISTRIBUTION

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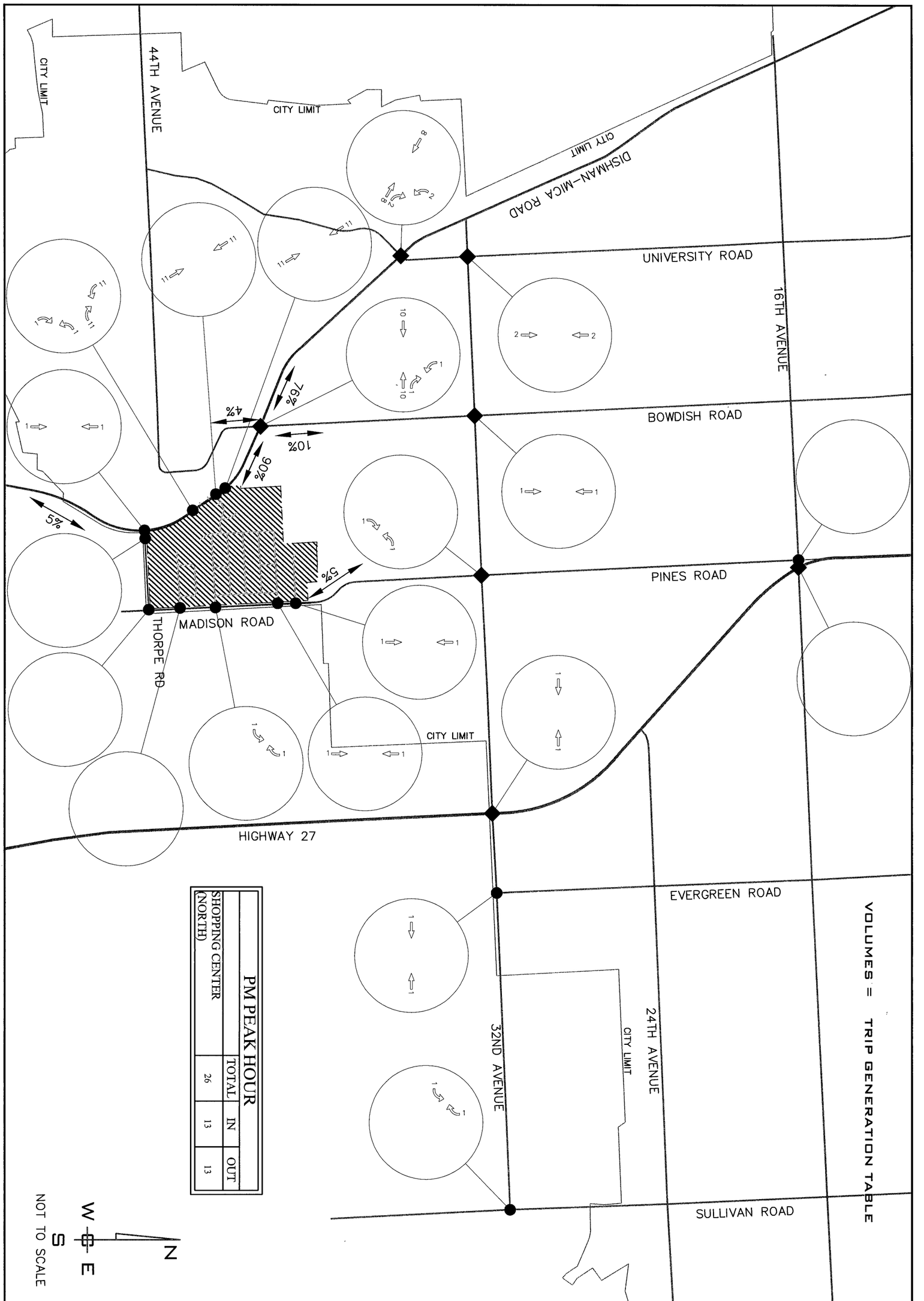

FIGURE 8F

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
MADISON ROAD & THORPE ROAD
SPOKANE VALLEY, WASHINGTON

PM SHOPPING CENTER TRIP DISTRIBUTION

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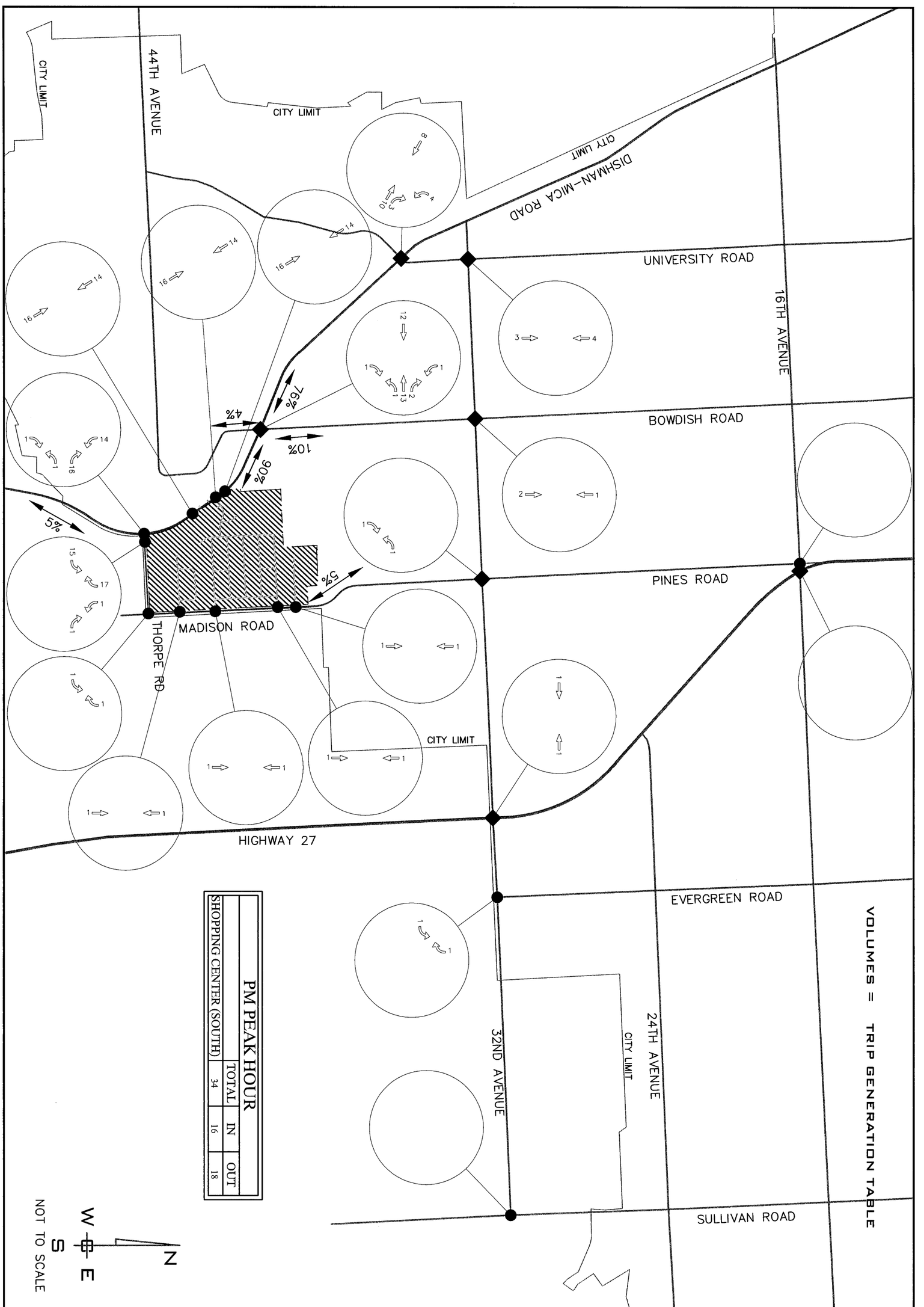

FIGURE 8G

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
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SPOKANE VALLEY, WASHINGTON

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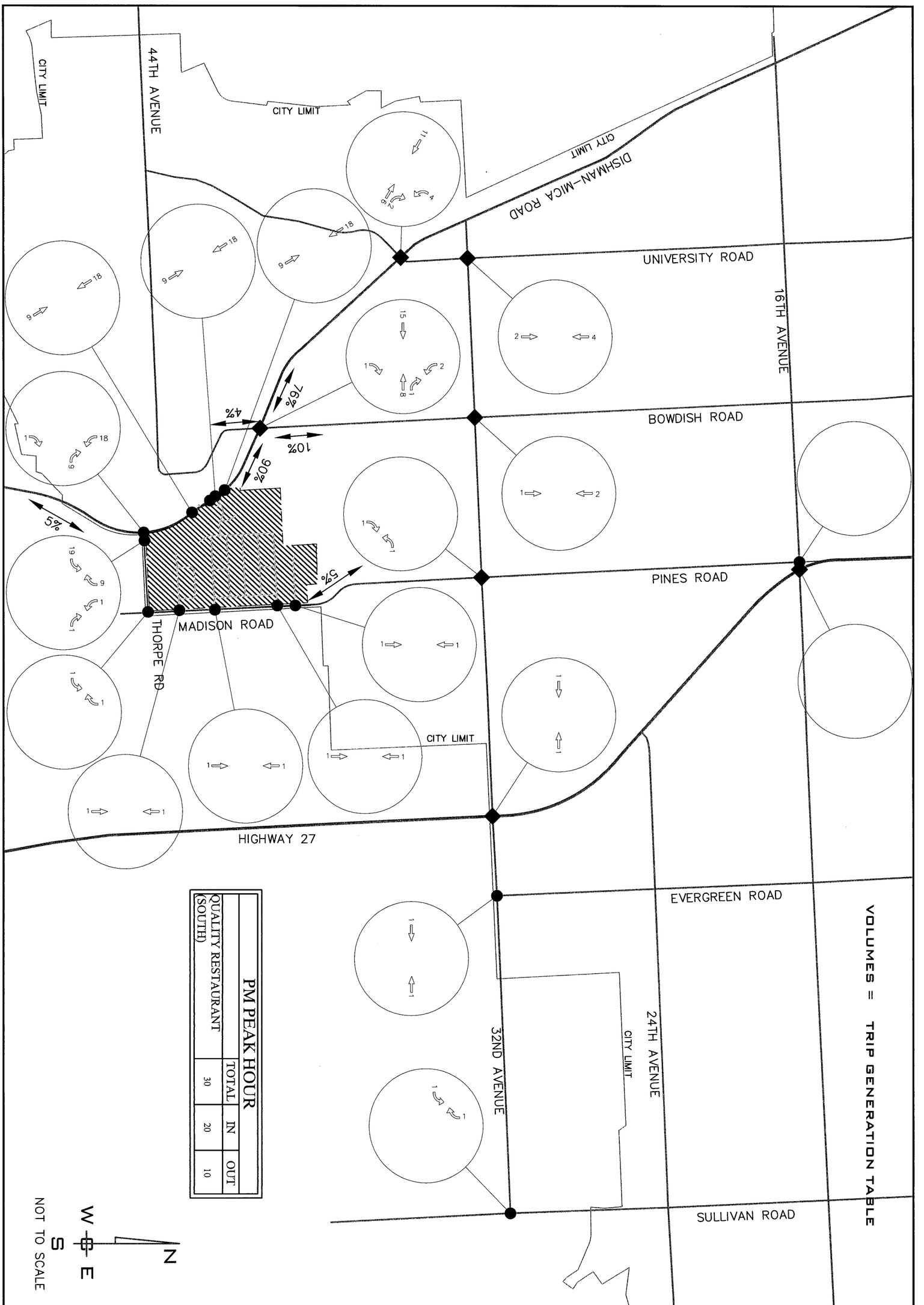

FIGURE 8H

TRAFFIC IMPACT ANALYSIS
PAINTED HILLS PRD
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