

## Attachment I - Endesco (Community) Traffic Study and Agency Responses

**From:** [Brockmyer, Richard](#)  
**To:** [Phillip Jakobsberg](#); [Nandini Arunkumar](#)  
**Cc:** [Smith, Parker](#); [Folden, Matthew](#); [Kwesi Woodroffe](#); [Torma, Rebecca](#); [Somarajan, Deepak](#); [Natasha Aidoo](#); [Alvin Powell](#); [Scott Holcomb \(Consultant\)](#); [Qianyu Hu](#)  
**Subject:** RE: Review of Joe Mehra's Report  
**Date:** Friday, February 23, 2024 4:28:05 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[Written Responses to Endesco Inc Report\\_Final.pdf](#)

---

As requested, please find written responses and comments to the Endesco, Inc. report. This includes responses and comments from M-NCPPC, MCDOT, and MDOT SHA staff. This will document will also be included in the staff report.

Thanks,



**Richard Brockmyer, AICP**  
Transportation Planner III

Montgomery County Planning Department  
2425 Reedie Drive, Floor 13, Wheaton, MD 20902  
[richard.brockmyer@montgomeryplanning.org](mailto:richard.brockmyer@montgomeryplanning.org)  
o: 301-495-4526



---

**From:** Brockmyer, Richard  
**Sent:** Wednesday, February 21, 2024 10:04 AM  
**To:** Phillip Jakobsberg <[pjakobsberg@gmail.com](mailto:pjakobsberg@gmail.com)>  
**Cc:** Smith, Parker <[Parker.Smith@montgomeryplanning.org](mailto:Parker.Smith@montgomeryplanning.org)>; Nandini Arunkumar <[nandini.arunkumar@gmail.com](mailto:nandini.arunkumar@gmail.com)>; Folden, Matthew <[matthew.folden@montgomeryplanning.org](mailto:matthew.folden@montgomeryplanning.org)>  
**Subject:** RE: Review of Joe Mehra's Report

Thank you for following up. We understand the request and I will work with the other agencies to provide written responses to the report. We will provide the written responses as soon as we have complete responses from the other agencies.

Thanks,



**Richard Brockmyer, AICP**  
Transportation Planner III

Montgomery County Planning Department  
2425 Reedie Drive, Floor 13, Wheaton, MD 20902  
[richard.brockmyer@montgomeryplanning.org](mailto:richard.brockmyer@montgomeryplanning.org)  
o: 301-495-4526



Attachment I - Endesco (Community) Traffic Study and Agency Responses

**From:** Phillip Jakobsberg <[pjakobsberg@gmail.com](mailto:pjakobsberg@gmail.com)>

**Sent:** Monday, February 19, 2024 9:44 PM

**To:** Brockmyer, Richard <[Richard.Brockmyer@montgomeryplanning.org](mailto:Richard.Brockmyer@montgomeryplanning.org)>

**Cc:** Smith, Parker <[Parker.Smith@montgomeryplanning.org](mailto:Parker.Smith@montgomeryplanning.org)>; Nandini Arunkumar <[nandini.arunkumar@gmail.com](mailto:nandini.arunkumar@gmail.com)>; Folden, Matthew <[matthew.folden@montgomeryplanning.org](mailto:matthew.folden@montgomeryplanning.org)>

**Subject:** Review of Joe Mehra's Report

**[EXTERNAL EMAIL]** Exercise caution when opening attachments, clicking links, or responding.

Hi Richard,

Thank you for pulling together the meeting last Wednesday with staff members from SHA and MC-DOT, and for the offer to have another meeting. After further consideration, we have decided that another meeting will not be necessary. However, we would like to receive a written response to the issues that Joe Mehra brought to light in his review of the developer's traffic study (attached here). We think this is a fair request given the nature of the conclusions in the developer's traffic study, which in our view were not objective, and thus left us with little recourse but to hire our own consultant.

Please let us know when you can provide these responses.

Thank you,

Phil Jakobsberg and Nandini Arunkumar  
Residents of Forest Estates and Forest Grove

## Agency Review of Endesco, Inc. 9801 Georgia Avenue Traffic Study

2/23/2024

The purpose of this document is to provide written responses to the issues that were identified in the 9801 Georgia Avenue Traffic Study dated February 5, 2024 from Endesco, Inc. This study was a review of the Lenhart Traffic produced LATR Transportation Study submitted by the applicant. However, it should be noted that the Endesco, Inc. report reviewed an older version of the Lenhart Traffic LATR Transportation Study. Endesco Inc. reviewed a study dated October 20, 2023. However, the study was further revised due to additional comments provided by M-NCPPC, MCDOT, and MDOT SHA staff. The most recent version of the report is dated November 6, 2023. This was uploaded to DAIC on November 13, 2023. This final version of the Applicant's report is the version referred to in the MCDOT and MDOT SHA letters of approval.

The responses to the Endesco, Inc report were coordinated between staff at M-NCPPC, MCDOT, and MDOT SHA. For ease of understanding which responses and comments came from each agency, [MCDOT comments are in blue](#), M-NCPPC comments are in black, [and MDOT SHA comments are in brown](#). We appreciate the community's interest in this project, and we also value the ability to review the commissioned report.

### Existing Conditions

- [The Endesco report calls out that the turning movement counts were completed on May 31st, 2023. This is allowed per LATR Guidelines. Page 40. We defer to Parks and Planning for further clarification.](#)
  - M-NCPPC staff concurs with this comment. The report highlights that data collection occurred on Wednesday, May 31, 2023. This is correct and is consistent with what is allowed per the LATR Guidelines. Page 40 of the 2023 LATR Guidelines provides specific guidelines for existing intersection turning movement counts. The data collection date met these standards.
- [The Endesco report states that the traffic volumes in 2023 should be one half to one percent higher than the 2022 volumes. The pre covid \(2018 & 2019\) traffic volumes at the intersection of MD-97 & Forest Glen Road are comparable to the existing traffic volumes per the report submitted by the applicant. We defer to Park and Planning on this issue.](#)
  - The SHA data cited in the Endesco report do not appear correct. This could be due to a misunderstanding of the dataset, or typographical errors. The Endesco report also misstates existing volumes from the LATR Transportation Study. While the 2023 collected volumes are lower than the 2022 volumes, the difference is less than what is stated in the report and within a reasonable threshold for expected fluctuations in volumes.
  - [SHA also notes that the traffic volume data provided by the developer compares favorably to SHA recorded traffic counts for the study area intersections along the state highway. This data is available from the SHA online data repository.](#)

### Site Trip Generation

- The Endesco report states that the consultant should have used the existing traffic to and from the site as the existing site generated traffic and not use ITE for existing conditions. The existing traffic from the site was recorded as part of the intersection traffic counts and the use of ITE generated traffic counts is part of the LATR requirement. We defer to Parks and Planning for further clarification.
  - The methodology that was used is consistent with the methodology required in the LATR Guidelines. Page 23 of the Guidelines provide guidance on existing use trip credits and calculating net new peak hour person trips. Page 40 of the Guidelines provides a guidance on the methodology that should be used for trip generation. All the conclusions cited under the 'Site Trip Generation' section of the Endesco report stem from the difference between using driveway counts versus ITE for existing land use trip generation.
  - **SHA is agreement with the methodology used for trip generation. The results appeared to be reasonable in our reviews and ultimately the existing site trips will not impact the total long-term traffic generation at the site that must be maintained by the site design and off-site improvements.**

### Site Trip Assignment, Traffic Diversion to Avoid Congestion, and Levels of Service/Delay Analysis

- The Endesco report states under the Site Trip Assignment section that it would be easier and shorter to make a left at Georgia Avenue and enter the site from Georgia Avenue. It depends. The left-turn cycle will be shorter than the through cycle. So, if one were to miss the left, that motorist would be required to wait the full cycle to make the turn. Going straight would be best in most cases, unless (1) one were to get the LT signal; or (2) one cannot get a turning gap at Woodland. Commute drivers would be familiar with the best option. Either option could be advantageous, depending on the circumstance upon arrival.
  - Other examples called out in the Endesco report are also no longer relevant as the applicant's consultant team made modifications to the site assignment routing based on comments provided by M-NCPPC, MCDOT, and MDOT SHA. These modification are included in the updated report dated November 13, 2023.
- The Endesco report states that the traffic light at the intersection of Georgia Avenue/Forest Glen Road provides enough gap for the vehicles to safely exit the site and move over to the left lane for making U-turns. This is a subject statement, and its not clear what the basis is for this claim. The traffic volumes in the peak hour appear to be a 50/50 split. Will defer to MDSHA for further clarification.
  - **SHA does not concur with the statement by Endesco regarding adequate gap availability. Site related traffic destined for southbound MD 355 would need to travel northbound to the intersection of MD 97 and Tilton Drive and execute a U-turn to travel southbound. The available weave distance for vehicles to travel from the site access into the northbound left turn lane at the MD 97 (Georgia Avenue) and Tilton Drive intersection is limited, particularly when the queues back from Tilton on MD 97 are considered. As a result, SHA projects that this may lead to an increase in the number of side swipe crashes at this location if that U-turn movement is not mitigated.**

- Based on the analysis conducted, it is noted that without mitigation, if all the development related northbound U-turns were added to the existing northbound left turn volumes at the MD 97 and Tilton Avenue intersection, the left turn queues would exceed the available left turn bay storage. Consequently, the northbound left turn queues would spill into the through lanes on MD 97. An increase in the number of rear end and sideswipe crashes is projected as a result.
- The Endesco report summarizes the experiment the community conducted on October 25th, 2023. This test did not stagger the arrival times of the vehicles to reflect the peak conditions.
- The Endesco report states that the experiment routing would be the travel path of most of the residents leaving from the site on Woodland Drive. This is not true. According to the distribution, most would head to Tilton then Georgia. The author of this report even explains in the previous section that traffic congestion on Forest Glen make such a move impractical.
- The Endesco report states that the synchro 11 report for AM existing conditions show a queue of 0 vehicles going WB with 0 delay. That is not concurrent with the latest report dated November 6, 2023 per the Applicant's consultant. Exhibit B17 has the results.

#### **Forest Glen Sector Plan and Traffic Calming**

- The Endesco report states that the operational analysis/levels of service analysis of the Site access and the analysis of the intersection of Woodland Drive/Forest Glen Road has not factored in the additional truck traffic that will be using Woodland Drive and the site entrance off Woodland Drive. Truck traffic could amount to three additional vehicles in a total day. These wouldn't arrive simultaneously or likely at the peak time. If they did, it would only be three additional vehicles. Additionally, the Applicant will have a loading management plan to handle move-ins/outs mostly during off-peak hours.
- Per section 59.6.2.8.C.2. of the zoning ordinance, the size of a loading space is determined by the size of delivery vehicles serving the site. The minimum size of a loading space is: 10 feet wide, 30 feet long, and 14 feet high if it serves single-unit trucks and similar delivery vehicles. It is not anticipated that the Site will be served by larger truck vehicles. Additionally, per the Complete Streets Design Guide (page 197) Montgomery County's standard design vehicle is a 30-foot single unit truck (SU-30) with a 42-foot turning radius.
- The Endesco report states that the creation of a new driveway on Woodland Drive is contrary to the Vision Zero strategy as it creates additional conflict points between car to car, car to pedestrians, and trucks to pedestrians. There are existing driveways along Woodland Road and this is the only proposed driveway with the sidewalk at grade and a ped refuge island. With the building pushed back there is enough sight distance for the vehicles to stop for pedestrians crossing the driveway. Also narrowing Woodland Drive to comply with Complete Streets will slow down the vehicles which makes it safe for all modes of traffic.
- The Endesco report states that the scenarios that provide full access off Woodland Drive are counter to the Vision Zero statement in the Forest Glen Sector Plan as they result in additional conflict points and potential for crashes between vehicles and vehicles/pedestrians/bicycles. The Sector Plan identifies high density housing for the parcel in question which requires multiple access points. Elimination of conflict points between the modes does not mean that all access points are removed. It means that where access and conflict points can be removed or reduced, they should be. In this case, providing access on Woodland Drive is practical. Moving all traffic

to Georgia Avenue and Tilton Drive and requiring a U-turn for southbound traffic introduces significant safety hazards at Tilton Drive and Georgia Avenue.

- The Endesco report does not acknowledge that an existing access point along Forest Glen Road will be removed on a road with higher vehicular and pedestrian volumes. The access point on Woodland Drive is also being designed based on best practices and the Complete Streets Design Guide, including having flush sidewalk conditions across both driveways. The driveway is also located a significant distance north of the functional intersection of Georgia Avenue and Forest Glen Road.
- **It should be noted that the access on MD 97 also has its challenges regarding Vision Zero goals as MD 97 is a high volume roadway with its own transit, pedestrian, and bicycle travelers. The reviewers, including SHA, have attempted to take a balanced approach noting the challenges of designing safe access for MD 97 and Woodland Drive.**

### Conclusions

- The Endesco report states that a fourth scenario should be analyzed which would consist of access off Georgia Avenue only and signalization of the intersection of Georgia Avenue and Tilton Drive. Adding slow down and exit vehicle traffic to a high-speed, high-volume roadway with few traffic gaps would introduce higher speed car-to-car and pedestrian to car conflicts, making it far less safe.

### Comments Provided by MCDOT Division of Traffic and Operations (DTEO)

An additional traffic study was performed by the Forest Grove Citizens Association, via Endesco, Inc., a traffic engineering consultant. This request for additional study was initiated to verify the traffic study performed by Lenhart Traffic Consulting, Inc. as part of the County's LATR and operational analysis for the 9801 Georgia Avenue development.

The Division of Traffic Engineering and Operations (DTEO), MCDOT, was made aware of the traffic study performed by Endesco, Inc. and was asked to conduct a review of the conclusions offered from the study. The following are summary comments from DTEO related to those conclusions.

### Existing Conditions

- The Endesco report indicates that traffic volumes on Georgia Avenue and Forest Glen have been "increasing at the rate of 0.5% to 1% every year.". The report (at least that which reviewed by DTEO) does not provide data to indicate this.
- If the statement were made anecdotally, it is difficult to prove the validity of the statement.
- Finally, a 3 to 6% variance in the traffic volumes would amount to less than five vehicles in the peak hours, given the volumes under scrutiny. This is not a significant number of additional vehicles.

### Site Trip Assignment

- The Endesco report indicates a discrepancy with the Lenhart report. The Lenhart report shows traffic traveling eastbound on Forest Glen Road, then turning left on Woodland Drive to access the site. The Endesco report asserts that traffic will travel eastbound on Forest Glen Road and turn left on Georgia Avenue to access the site.

## Attachment I - Endesco (Community) Traffic Study and Agency Responses

- There is an exclusive left-turn signal on Forest Glen Road at Georgia Avenue. Motorists who would be unable to turn left on green would utilize Woodland Drive to access the site. Waiting to turn left at Georgia Avenue could take 60-120 seconds, depending on timing of the signal, making the Forest Glen to Woodland Drive path likely more reasonable for motorists.
- The key conclusion is that the Forest Glen to Georgia path is not ideal and should not be considered the preferred route for access to the site, though it will likely be used.
- An additional discrepancy is that the Endesco report indicates that motorists would be more inclined to exit the site onto northbound Georgia Avenue, then make a U-turn at Tilton Drive to proceed southbound on Georgia, rather than exiting the site to northbound Woodland Drive and accessing Georgia Avenue by the traffic signal at Tilton and Georgia.
  - High speeds and high volumes on Georgia Avenue do not make the movement supported by Endesco implausible. However, weaving over three lanes in substantive traffic could be challenging.
  - Also, the design of the traffic signal is not complete. Given the number of opposing traffic lanes (three), I expect that the left-turn would be protected, limiting the number of U-turns that may take place each traffic signal cycle.
  - Using northbound Woodland Drive to Tilton and then to Georgia Avenue provides a safer route and the turn is protected by the traffic signal.

### Traffic Diversion to Avoid Congestion on Forest Glen

- The Endesco report asserts that traffic accessing 9801 Georgia Avenue from Forest Glen Road may use Myrtle Road and/or Sherwood Road to access the site. This would be due to the congestion on Forest Glen Road, queuing from Georgia Avenue.
  - This phenomenon may occur, but it is not a fatal flaw. Since the vehicles using these other routes live in/have a destination within the neighborhood, they are not considered transient or cut through traffic and should be permitted to access the site from these available routes.

### Levels of Service/Delay Analysis

- The delays at Woodland Drive and Forest Glen Road should be checked by Endesco to make sure they correctly reflect the information shown in the Lenhart report.
- The Endesco report makes the general assertion that trucks accessing the 9801 Georgia Avenue development from Woodland Drive will increase queuing on southbound Woodland Drive at Forest Glen Road.
  - There is no data provided by Endesco to show that this phenomenon will occur. For instance, the Endesco report does not provide an anticipated volume of additional trucks that would access the site, along with an anticipated timeframe when the vehicles would access the site.
  - Assessing these arrival/use times is important for establishing impacts on the network during the peak hour or other times of day.

### Forest Glen Sector Plan

## Attachment I - Endesco (Community) Traffic Study and Agency Responses

- The Endesco report states, “The creation of a new driveway on Woodland Drive is contrary to the Vision Zero strategy as it creates additional conflict points between car to car, car to pedestrians and trucks to pedestrians.”
  - o This statement is out of context. The Sector Plans intent is to provide designated and separate spaces for all modes, not to eliminate driveways and other connections.
  - o The access point on Georgia Avenue supports the same conditions as would exist on Woodland Drive, only the vehicle speeds on Georgia Avenue would be higher and, in the context of the Endesco report, provide an even greater hazard.

### Traffic Calming

- The Endesco report indicates that narrowing Woodland Drive would create turning conflicts for trucks using the development site.
  - o The Complete Streets Design Guide (CSDG) promotes narrower roadways and tighter turning radii to promote slower vehicle movements that enhance the safety of vulnerable road users.

In conclusion, we appreciate the opportunity to review the Endesco Inc. report and the ability to provide written responses to the issues that were raised. However, staff from all reviewing agencies and Planning find the Applicant’s study dated November 6, 2023 to be acceptable and that further analysis is not warranted.



**MEMORANDUM**

TO: Forest Grove Citizens Association

FROM: Joe Mehra, PE., PTOE

SUBJECT: 9801 Georgia Avenue Traffic Study

DATE: February 5, 2024

Job: 202321

---

Lenhart Traffic Consulting, Inc. (Lenhart) prepared a traffic study entitled, Local Area Transportation Review and Operational Analysis for 9801 Georgia Avenue, dated July 14, 2023 and Revised October 20, 2023. The LATR was prepared for the redevelopment of the property located at 9801 Georgia Avenue. The property is currently developed with a 31,590 square foot medical-dental office building. The proposed redevelopment consists of razing the existing building and construction of 390 mid-rise multi-family units with approximately 5,000 square foot of first floor retail. The study was conducted to satisfy the LATR requirements in accordance with the M-NCPPC 2020-2024 Growth and Infrastructure Policy (GIP). This area is designated as a Red Policy Area and a Motor Vehicle Adequacy Test is not required. However, an analysis of motor vehicles was conducted primarily for operational analysis. The July Report was reviewed by M-NCPPC, MCDOT and SHA. Lenhart made major revisions to the July report to respond to comments in their October Report.

I have reviewed the October traffic report with emphasis on the motor vehicles operational analysis. My review comments are presented below.

**Existing Conditions**

The foundation of good traffic analysis is the existing traffic data that is expanded upon in the traffic impact analysis process. Good existing traffic data along with proper and correct traffic analysis will lead to meaningful results. The traffic data (turning movement counts) utilized in the traffic analysis was collected on Wednesday, May 31, 2023. Monday, May 29, 2023 was Memorial Day. The traffic volumes are typically much lighter than normal during this holiday week leading to better levels of service than on a typical weekday. Maryland State Highway Administration data showed that the peak hour volumes at the intersection of MD 97 and Forest Glen Road on March 29, 2022 were 5,430 and 5,575 vehicles during the AM and PM peak hours, respectively. The traffic counts in the traffic study showed that the peak hour volumes at the intersection of MD 97 and Forest Glen Road on May 29, 2023 were 5,134 and 5,396 vehicles during the AM and PM peak hours, respectively. The traffic study volumes from 2023 are about 3 to 6 percent less than the SHA traffic volumes from 2022. It should be noted that the traffic volumes on Georgia Avenue and Forest Glen Road have been increasing at the

rate of one-half to one percent every year. The traffic volumes in 2023 should be one-half to one percent higher than the 2022 volumes.

Exhibit B3 shows the existing traffic volumes on the roadway network. This Exhibit omits the traffic entering and exiting the existing driveway on Georgia Avenue. This is critical information because it would compare the trip generation estimated by Lenhart using the ITE Trip Generation report versus the actual trip generation. Further, the traffic volumes do not balance going north between Forest Glen Road and Tilton Drive. This missing information should be provided.

### Site Trip Generation

The consultant utilized ITE Trip Generation Report to estimate existing traffic to and from the site. The following Table is extracted from Exhibit B5. This table shows that the net increase in vehicle trips is 78 and 63 during the AM and PM peak hours, respectively. Exhibit B5 also shows that the net increase in Person Trips is 160 and 135 during the AM and PM peak hours, respectively.

			AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
Existing	Medical-Dental Office (ksf, ITE-720)	31,590 sq.ft.	67	18	85	37	88	125
<b>Existing Vehicular Trips per ITE Trip Generation Manual, 11th Edition:</b>			<b>67</b>	<b>18</b>	<b>85</b>	<b>37</b>	<b>88</b>	<b>125</b>
LATR Vehicle Trip Generation Rate Adjustment Factor (Forest Glen - Office): 70%								
Total LATR Adjusted Vehicular Trips per ITE Trip Generation Manual, 11th Edition (Auto Driver at 56.3%):			48	12	60	32	56	88
<b>Total Person Trips:</b>			<b>85</b>	<b>21</b>	<b>106</b>	<b>57</b>	<b>99</b>	<b>156</b>
Auto Driver: 56.3%			48	12	60	32	56	88
Auto Passenger: 9.9%			8	2	10	5	10	15
Transit: 20.9%			18	4	22	12	21	33
Non-Motorized: 13.1%			11	3	14	8	12	20
			AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
<b>Net Vehicle Trips:</b>			<b>-11</b>	<b>89</b>	<b>78</b>	<b>57</b>	<b>6</b>	<b>63</b>

The site is currently occupied and generating traffic. It is industry practice and recommended to use actual traffic generation rather than using theoretical estimates using ITE or some other source. The consultant should actually use the existing traffic to and from the site as the existing site generated traffic and not use ITE for the existing conditions. Exhibit B5 does not represent the true increase in traffic with the proposed development. Vehicle and pedestrian trip generation data at the site was collected on Wednesday, November 8 between the hours of 6:30 to 9:30 AM and 4 PM to 7 PM. The peak hour vehicular and pedestrian (would include transit passengers also as they would have to walk in to the facility) traffic was as follows:

EXISTING OBSERVED TRIPS

	AM Peak Hour			PM Peak Hour		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Total Person Trips	57	25	82	20	33	53
Auto Driver Trips	48	20	68	17	25	42
Auto Passengers (1)	8	2	10	3	5	8
Pedestrians Incl. Transit	1	3	4	0	3	3

(1) Computed based on LATR

Based on the observed trip generation data and the Consultant's proposed development trip computations (from Exhibit B5), the net increase in Person Trips and Vehicle trips is as follows:

		NET INCREASE IN TRIPS					
		Total Person Trips			Auto Driver Trips		
		IN	OUT	TOTAL	IN	OUT	TOTAL
AM Peak Hour	15	169	184	-11	81	70	
PM Peak Hour	152	86	238	72	37	109	

The increase in person trips is 238 during the PM peak hour. Therefore, the Adequacy Requirements and Study Area for Pedestrian Adequacy is now 900 foot Area walkshed versus a 750 foot Area Walkshed used by the Consultant in the LATR. The LATR should be updated with the corrected Walkshed. Essentially, the Pedestrian System Adequacy, the Bicycle System Adequacy and the Bus Transit System Adequacy need to be updated to meet the GIP Requirements.

**Site Trip Assignment**

There are significant issues with the site trip assignment, seems to have been arbitrarily assigned without consideration of travel times or travel distances. Specific trip assignments need explanation as to the reason for their assignment.

For example, in Exhibit B7a shows (3)1 traffic coming from the west on Forest Glen Road and going straight through to Woodland Drive, turning left at Woodland Drive and then in to the site. It would be easier and shorter to make a left at Georgia Avenue and enter the site from Georgia Avenue.

Another example - Exhibit B11b shows (23) 29 vehicles turning left from the site on to Woodland Drive going North, turning left on Tilton Drive and then turning left on Georgia Avenue to go south. It would be easier to make a right turn on Georgia Avenue and make a u-turn on Tilton Drive to go south on Georgia Avenue. The traffic light at the intersection of Georgia Avenue/Forest Glen Road provides enough Gap for the vehicles to safely exit the site and move over to the left lane for making the U-turns.

**Traffic Diversion on to Residential Streets to Avoid Congestion on Forest Glen Road**

The traffic analysis assumes that traffic exiting or entering the site will not use any residential streets to avoid severe congestion on Forest Glen Road. The proposed

scenarios with access off Woodland Drive would result in traffic using Sherwood Road or Myrtle Road for access to and from Forest Glen Road from the east. Traffic backs up on Forest Glen Road from Georgia Avenue all the way past the intersection with Woodland Drive to Dameron Drive. Using Myrtle Road and/or Sherwood Road to access the site would bypass the queues on Forest Glen Road at Woodland Drive. No concrete measures are provided to prevent the site traffic from using residential streets.

### Levels of Service/Delay Analysis

The Forest Grove Citizens Association conducted an experiment on Wednesday, October 25, 2023 on Woodland Drive. The experiment consisted of 10 members of the Association pretending to be residents of the proposed development. They drove in their vehicles on Woodland Drive towards Forest Glen Road to make a right turn on Forest Glen Road and then a left-turn on to Georgia Avenue. This would be the travel path of most of the residents leaving from the site on Woodland Drive. The ten motorists were video taped at the intersection of Woodland Drive and Forest Glen Road. The delay was recorded beginning about 7:45 AM.

The field measured delay from the video recording for the South Bound right turning vehicles for ten vehicles in Queue on Woodland Drive was as follows (the eleventh vehicle was other traffic):

DELAY MEASURED ON OCTOBER 25  
SOUTH BOUND ON WOODLAND DRIVE  
RIGHT TURN ON FOREST GLEN ROAD

Vehicle No.	Time
1	0:55
2	1:26
3	1:41
4	2:56
5	2:59
6	3:23
7	6:31
8	6:38
9	9:28
10	9:30
11	11:01

The minimum delay was 55 seconds. The 11<sup>th</sup> vehicle in the queue had a delay of about 11 minutes before that vehicle could make a right turn on to Forest Glen Road. This experiment would be similar to traffic conditions in Scenario 1 and Scenario 3.

The level of service at the intersection of Forest Glen Road and Woodland Drive is shown as LOS A for all three scenarios. The delay on southbound Woodland Drive at Forest Glen Road varied from 33.4 seconds per vehicle (LOS D) for existing conditions to 40.5 seconds per vehicle for Scenario 1 and 33.1 seconds for Scenario 3. The queue lengths from SimTraffic Model for the southbound Woodland Drive at Forest Glen Road

varied from a low of 90 feet for the existing conditions to a high of 198 feet for Scenario 1 and 183 feet for Scenario 3. The modeling results are significantly better than real world conditions, particularly the delays on southbound Woodland Drive and Westbound Forest Glen Road. Lenhart should present the delays computed from SimTraffic Model also.

The intersection of Woodland Drive and Forest Glen Road is operating at saturated conditions. The traffic flow on Forest Glen Road Westbound is constrained by the traffic signal at Georgia Avenue/Forest Glen Road. The synchro 11 report for AM existing conditions show a queue of 0 vehicles going WB with 0 delay. Traffic backs up from Georgia Avenue through Woodland Drive and beyond. Lenhart's modeling assumes free flow on Forest Glen resulting in 0 queues and 0 delay. The field observation showed a queue that extended more than 20 vehicles to as far as Dameron Drive. Further, the westbound vehicles experienced significant delays going westbound through the intersection with Forest Glen Road.

The Applicant is proposing to use Woodland Drive site access for the loading dock, all deliveries, move-ins and move-outs and trash pickup. However, the operational analysis/levels of service analysis of the site access and the analysis of the intersection of Woodland Drive/Forest Glen Road has not factored in the additional truck traffic that will be using Woodland Drive and the site entrance off Woodland Drive. The vehicle queuing on southbound Woodland Drive at Forest Glen Road will increase with the presence of the trucks. The LATR should clearly address the additional truck traffic that will be using Woodland Drive.

### **Forest Glen Sector Plan**

The transportation recommendations focus on Vision Zero strategies, which are intended to decrease the frequency and severity of crashes. These strategies include:

- Reducing vehicular speeds.
- Eliminating conflict points between users (i.e. car-to-car, car-to pedestrian, pedestrian-to-bicycle, etc.).

The creation of a new driveway on Woodland Drive is contrary to the Vision Zero strategy as it creates additional conflict points between car to car, car to pedestrians and trucks to pedestrians. Therefore, from the Vision Zero perspective Scenario 2, site access to MD 97 only works best.

### **Traffic Calming**

The Applicant proposes to narrow Woodland Drive near the site entrance to create traffic calming. The narrowing of the roadway width would create turning issues for trucks entering and exiting the site. Truck turning movements entering and exiting the site are presented for SU-30 and trash trucks. Most of the move-ins and move-outs and other deliveries would occur using SU-40 Trucks. Truck turning movements for a SU-40 truck should also be shown to ensure safe operation of the new access.

## Conclusions

The existing traffic data was collected during the holiday week and resulted in 3 to 6 % less traffic than a typical weekday. This would potentially result in less delay at all intersections analyzed and better levels of service. The study results cannot be relied upon for their conclusions.

The existing site trip generation uses theoretical formulas when real data could be obtained by observing the actual trip generation and thus led to higher generation than actual field observed data. This resulted in a lesser watershed and incorrect GIP requirements.

The scenarios that provide full access off Woodland Drive are counter to the Vision Zero statement in the Forest Glen Sector plan as they result in additional conflict points and potential for crashes between vehicles and vehicles/pedestrians/bicycles. Further, providing access off Woodland Drive will result in traffic using other residential streets such as Myrtle Road and Sherwood Road to bypass the traffic congestion along Forest Glen Road approaching Woodland Drive from the East. The experiment by the Forest Grove Citizens Association members showed a delay of as much as eleven minutes for 11 vehicles to exit the "site driveway" and turn right on to Forest Glen Road from Woodland Drive during the AM peak hour. The modeling results do not show similar results because the model did not consider saturated conditions.

The truck loading access from Woodland Drive is missing the major truck movements for a SU-40 truck. Will the proposed traffic calming measures work with a SU-40 truck?

The operational analysis presented in the LATR study is deficient, has incorrect analysis, and numerous errors that require the LATR be corrected and submitted for review. Further, the Pedestrian System Adequacy, the Bicycle System Adequacy and the Bus Transit System Adequacy need to be updated to meet the GIP Requirements.

In reviewing the LATR, the study assumptions and issues, I recommend that a Fourth Scenario be analyzed. This scenario would consist of access off Georgia Avenue only and signalization of the intersection of Georgia Avenue and Tilton Drive. An access off Georgia Avenue only with a traffic signal at the intersection of Georgia Avenue and Tilton Drive would determine if the U-turns can be safely accommodated at Tilton Drive. The traffic signal on Georgia Avenue at Forest Glen Road provides enough of a Gap for vehicles to exit Georgia Avenue and proceed to the left lane to make a u-turn at Tilton Drive. This scenario is necessary because there are significant issues with access off Woodland Drive.