Town of Montville, Connecticut

Department of Land Use & Development
Planning & Zoning
Inland Wetlands & Watercourses
Economic & Community Development

Planning & Zoning Commission

---DRAFT---

Staff Report

Application: 8-24 Referral for PTA Lane discontinuance

Prepared by: Dennis Goderre, PLA, AICP; Director of Land Use and Development

Date: March 6, 2026

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1. Context

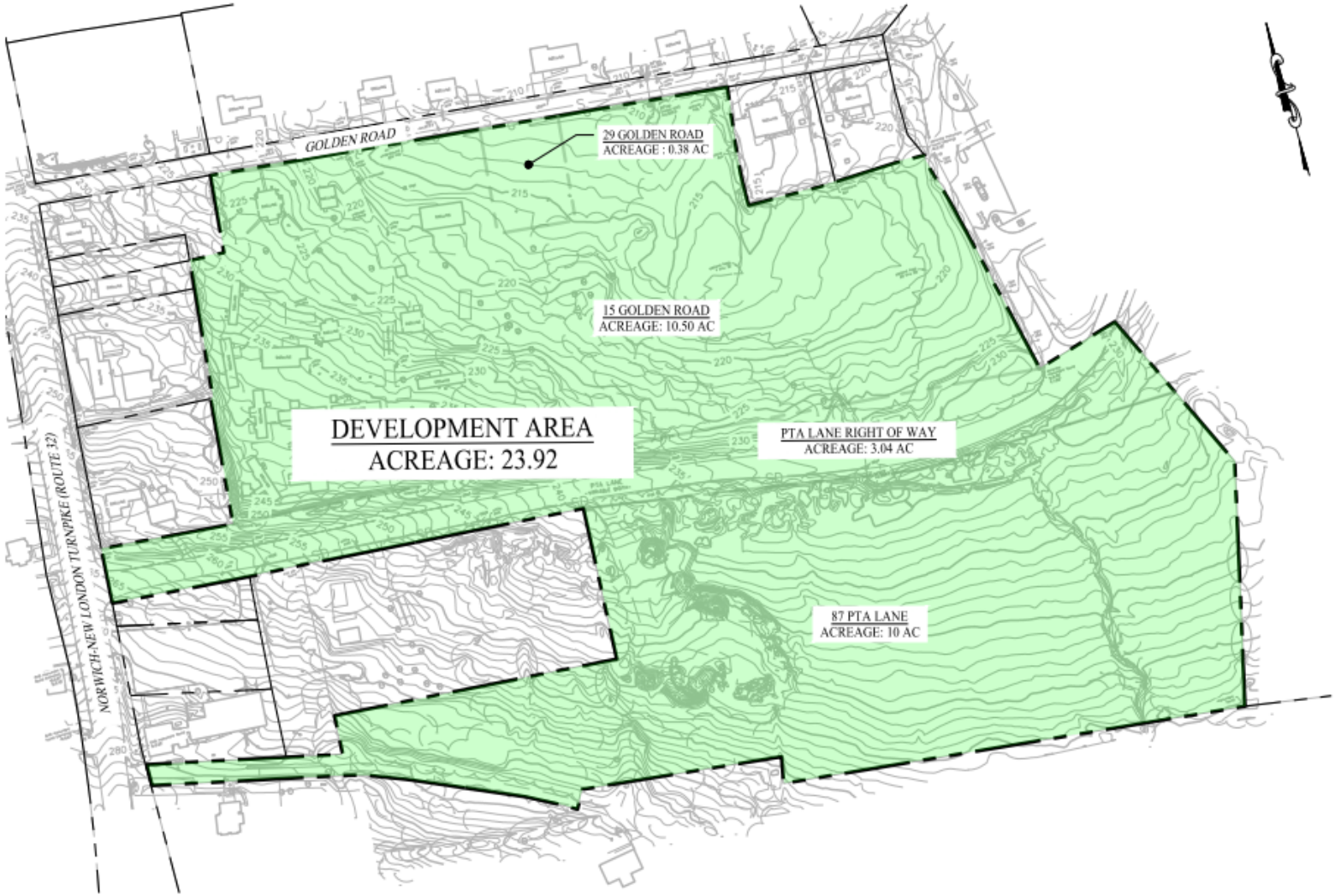
a. Summary of Request

Montville 1 LLC (the **Developer**) seeks to purchase PTA Lane for a project that;

> "*….contemplates the redevelopment of the Property with large format retail business(es) with associated upgrades to infrastructure, utilities, and landscaping. The proposed abandonment of PTA Lane is necessary to facilitate a cohesive site layout, safe and efficient vehicular circulation, and appropriate integration of site infrastructure, while remaining consistent with applicable Town standards.*
>
> *The proposed redevelopment has been planned to align with the Town of Montville's Plan of Conservation and Development, including objectives related to economic development, reinvestment in established commercial areas, and enhancement of the Town's tax base, while maintaining compatibility with surrounding uses*."

b. Planning and Zoning Commission's Responsibility for this Review

The Planning and Zoning Commission shall review this proposed discontinuance and sale of PTA Lane under the authority of **C.G.S. § 8-24**. It is important to clarify that the Commission's statutory role in this process is as the Planning Commission and is to determine whether



GENERAL NOTES

1. EXISTING PROPERTY BOUNDARIES AND TOPOGRAPHY IS BASED ON A PLAN TITLED "ALTA/NSPS LAND TITLE SURVEY OF 15 & 29 GOLDEN ROAD MONTVILLE, CONNECTICUT PREPARED FOR MONTVILLE 1 LLC". SCALE 1"=60', DATED FEBRUARY 3, 2026, BY ACCURATE LAND SURVEYING, LLC.
2. THE SUBJECT SITES CONSIST OF 3 PARCELS AND A ROADWAY TOTALING ±23.92 ACRES LOCATED WITHIN THE RESIDENTIAL 20 (R-20) DISTRICT AND THE GOVERNMENT (G) DISTRICT IN THE TOWN OF MONTVILLE, CONNECTICUT.

150 0 75 150

Rev. #:	Date	Description

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468
T: (203) 880-5455 | F: (203) 880-9695

Drawn By:	BPD
Checked By:	KMS
Project #:	24101701
Plan Date:	02/12/26
Scale:	1" = 150'

Project:
PROPOSED DEVELOPMENT
87 PTA LANE
MONTVILLE, CT

Sheet Title:
LAND ACQUISITION MAP

SHEET #:
EX-1

the proposed "municipal improvement" (the abandonment of a public roadway) is consistent with the **Town's Plan of Conservation and Development (POCD)**.

The Town Council holds the final authority to authorize the closure and sale following a public hearing. The recommendations outlined later in this Staff Report are intended to serve as a framework for the Town Council. It is context for you as the Planning Commission. Should the Commission issue a favorable recommendation, these items—ranging from school safety enhancements to public infrastructure improvements—are designed to be incorporated by the Town Council as conditions of the sale, should the Town Council agree to do so.

When the time comes for a motion, and should that motion be favorable, members should note that such favorable § 8-24 recommendation does not constitute a final project approval. Detailed site-specific impacts, including final grading, drainage, and site design, will be subject to a future Site Plan Review. There will be a more in-depth study of traffic, infrastructure, utilities and other improvements at that time.

c. Overview

Staff has undertaken a review of this referral with respect to possible future impacts to Town infrastructure (roads, utilities and pedestrian amenities). The intent of this preliminary review is to guide the Town Council in making an informed decision with respect to the closure of PTA Lane as it is the Council's legislative authority to decide on matters associated with roadway adoption or discontinuance.

During this preliminary review, the Montville Board of Education was engaged, including the Superintendent of Schools and Principal of Mohegan Elementary School. Our standard protocol for distributing this request to Town Departments was also followed. In addition, the Town consulted a traffic engineer, through our Town Engineer, CLA Engineering of Norwich. The preliminary findings of all reviewing parties are incorporated into this report, directly or by reference. A preliminary traffic memorandum is provided.

2. Plan of Conservation and Development (POCD) Considerations

a. General

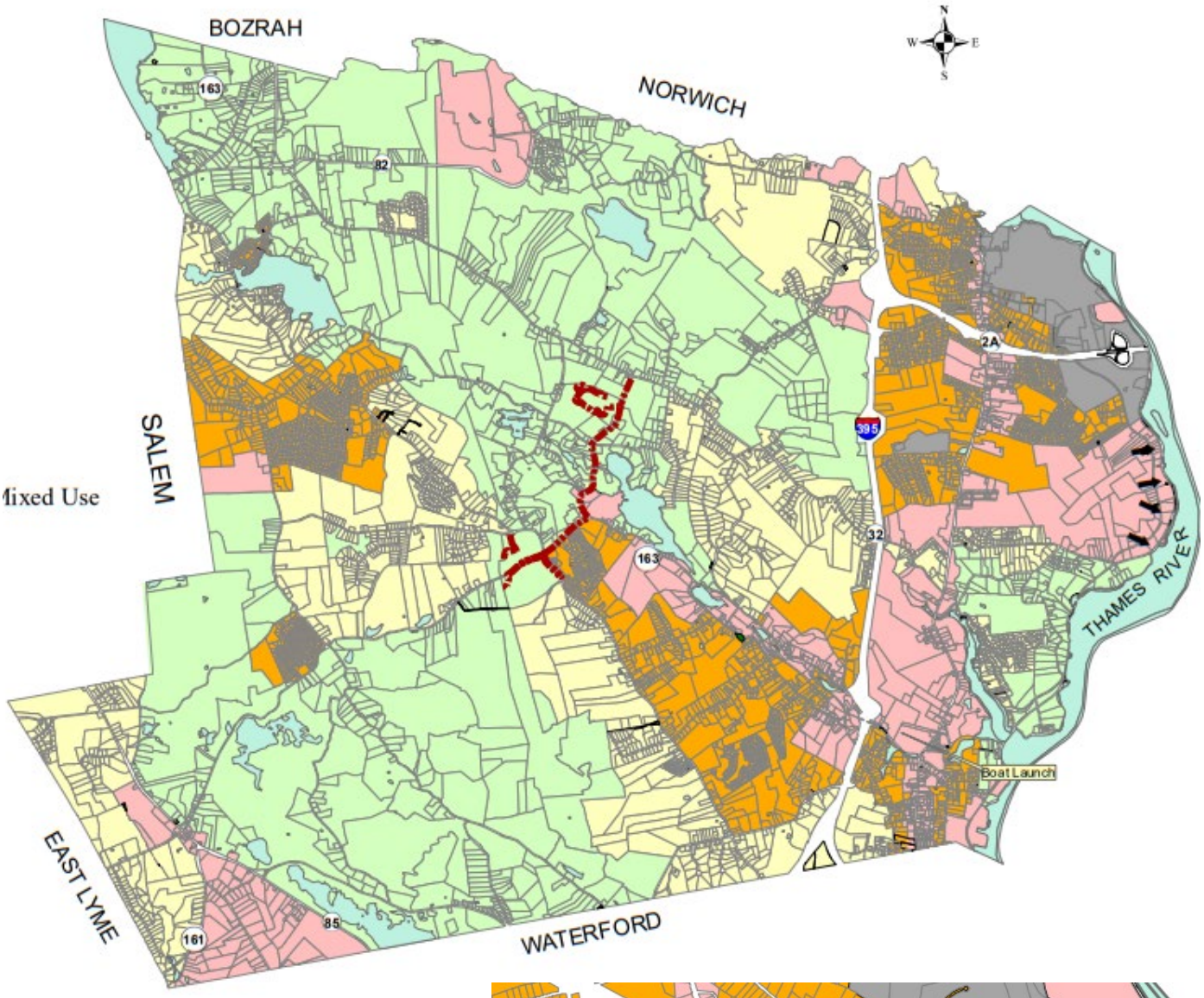
Staff offers the following information for general context

a. PTA Lane is a public right of way which terminates west of Mohegan School entry.
b. Golden Road also terminates at the Mohegan School.
c. There is no official public right of way connecting PTA Lane and Golden Road. These public roads are connected via a private drive which appears to be a public right of way to a traveler and located upon Board of Education property.
d. School buses and parents during pick up and drop off hours at the School utilize both Golden Road and PTA Lane. Staging for both operations occur on Mohegan School Property.
e. The properties along PTA Lane are zoned C1, R20, and Government. Each zone can allow various intensity of development including higher density housing, commercial and public facilities such as schools, public safety and critical public infrastructure. The Route 32 Overlay (OZ District) also applies.
f. PTA Lane is ~ 75' wide ROW. It is ~77' wide at the intersection with Route 32.
g. The Future Land Use Map (see next page) identifies high intensity uses or mixed uses within the vicinity of PTA Lane:
    i. the areas north and south of PTA Lane as Job Investment Area and which overlaps the R20 Zone.
    ii. Land east of PTA Lane's terminus is identified as Housing Investment Areas.

3. Preliminary Traffic Review

The Town, through the Town Engineer, commissioned a preliminary traffic review by KWH Enterprises, LLC. Mr. Hua worked with staff and the school to understand implications associated with PTA Lane's closure and to determine if the closure of PTA Lane would have adverse impacts to traffic circulation that could potentially limit future land uses as noted in the Future Land Use Map outlined in the POCD. Current operations were also considered as they influence future uses. It appears there are no impediments which would restrict future land use.

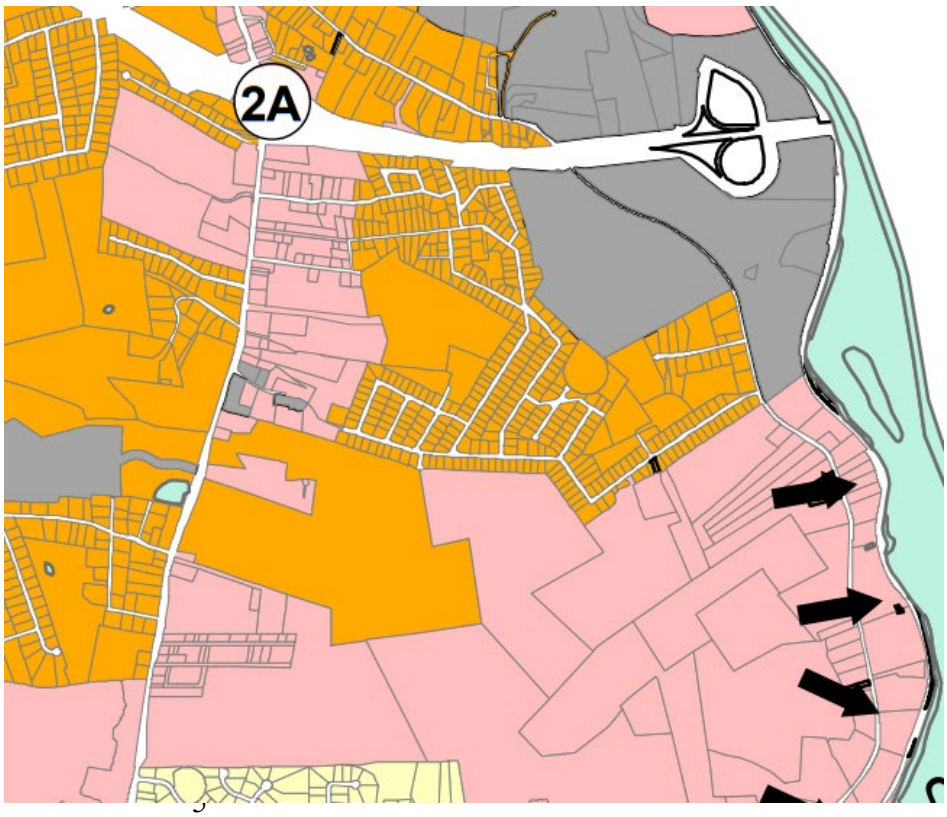
The *Traffic Evaluation of Discontinuing PTA Lane* letter is provided for your review.



Future Land Use

LEGEND

- Roads
- Water
- Lands of the United States of America In Trust for the Mohegan Tribe of Indians of Connecticut
- Housing Investment Area
  Lots less than or equal to 20,000 Sq. Ft.
  Within Sewer District Boundary
  Neighborhood Conservation Areas
  Infrastructure Area
  Municipal Uses
- Job Investment Area
  Infrastructure Investment
  Commercial; Light Industrial; Industrial; Mixed Use
  Municipal Uses
- Residental Lots greater than 80,000 Sq. Ft
  Conservation of Resources
  Scenic Vista
  Public Access to Water for Recreation
  Municipal Uses
- Medium Density
  Lots greater or equal to than 40,000 Sq. Ft.
  Municipal Uses
- Proposed Trail/Paths
- Vista



The following summary items are provided for your ease of reference:

a. Traffic operations of the Golden Road intersection and the PTA Lane intersection along Route 32 during weekday and Saturday peak hours were analyzed.

b. There is no excessive traffic delay at the Golden Road intersection or at the PTA Lane intersection under the current conditions. All traffic movements at the two intersections are operating at acceptable LOS D or better during the peak hours.

c. At the nearby Mohegan School, most parents currently park their cars and walk children to and from the school building during drop-off and pickup time. There is no excessive queuing of buses or parent vehicles on the site.

d. The future conditions of the analysis take into account the increases in traffic volumes on Route 32 from three potential area developments and the effects of discontinuing PTA Lane. This future traffic scenario assumed that the development site at PTA Lane will not be connected to Golden Road.

e. After PTA Lane is discontinued, the westbound traffic on Golden Road will experience delays and LOS (level of service) F during the weekday afternoon peak hour of the school.

f. I recommend the widening of Golden Road at the Route 32 intersection to include a 100-foot-long left-turn lane to address the traffic delays. After this widening, all traffic movements at the Golden Road intersection will operate at acceptable LOS D or better during the peak hours. After PTA Lane is discontinued, a turnaround cul-de-sac is recommended at the southern end of the onsite connector road to allow parents to return to Golden Road in an orderly fashion.

4. Staff Input

Following interest from the Developer requesting the purchase of PTA Lane, staff met to review possible impacts this discontinuance could have. Two meetings occurred which included land use, the school district, police, town engineer, DPW and Mayor. Meetings occurred at the Mohegan Elementary School on 12/4/25 followed by a second meeting on 12/23/25 to discuss initial staff considerations.

This formal request ensued. Following the initiation of this formal 8-24 Referral, the Mayor's request along with the items listed below in *Section 6. Considerations for Town Council*, was referred to the following departments: Town Engineer, Building Department, Fire Marshal, WPCA, Police Department, Public Works, Assessor, Superintendent Vumback and Principal Klinefelter.

On February 10, 2026 the following comments were received from the WPCA Administrator, Ronald K. McDaniel:

> *"There is a short run of sewer and a manhole on PTA Lane that we will continue to need to access.".*

Kyle Haubert of CLA, the Town's Engineer provided the following comments on February 11, 2026:

> *"I have reviewed this with John Carlson. We have no additional comments."*

LT. Radford provided the following comments on February 17, 2026;

> *I have the following comments, in addition to those already made by the Director.*
>
> *6.4 (5.) Traffic & Public Infrastructure (Item 6.4 (5) refers the 'considerations')*
> *a. This study also needs to include the Martin CT, Occum Ln and Rte. 32 / Occum Ln intersection. This is the alternate way out of the development, closest to the school.*
> *b. Golden road needs to be widened from the beginning, to accommodate the increased traffic (with the width of school buses passing each other in mind) and the addition of sidewalks (c.).*
>
> *Other than the above mention additions, I believe that it definitely needs to be in writing that these improvements and safety measures will be completed by the prospective buyer before or as part of their project and final rendering of PTA Ln.*

A detailed letter dated February 20, 2026, attached, written by Chief Blanchette was received on February 25, 2026. He supports this initiative, but highlighted public safety and traffic items that warrant consideration to ensure the well-being of residents, particularly those associated with Mohegan Elementary School. The closure of PTA Lane would eliminate a access route to the school, leaving Golden Road as the primary entrance and exit. If not mitigated, this could create risks, including:

1. Limited Emergency Access
2. Traffic Congestion and Bus Operations
3. Pedestrian and Child Safety
4. Commercial/Retail Establishment

He provided a detailed explanation to each of the above as well as, recommendations to mitigate the same.

Superintendent Vumback provided suggestions for Consolidated Site Improvement Plan on February 25, 2026. She further stated that the BOE meets in March to discuss and they may have additions.

- *Widen Golden Road to allow for two inbound lanes and one outbound lane:*
  - *Right turn lane for staff and buses*
  - *Middle lane for parent drop-off and pickup (left turn)*
  - *Left lane for exiting school property*

- *Add a right turn pocket at the intersection of Golden Road and Rt. 32 and correct the traffic light timing to improve traffic flow and reduce delays entering Golden Road.*
- *Widen the connector road between PTA Lane and Golden Road and construct a turnaround circle or roundabout at the end of the access road to improve circulation.*
  - *Reconfigure parking areas:*
  - *Combine the two existing front parking lots into one larger staff parking lot.*
  - *Convert the current rear parking lot into a designated parent drop-off and pickup area.*
  - *Construct additional parent and visitor parking spaces.*
  - *Add a secondary parking lot in the area of the existing playscape.*
- *Create a dedicated bus roadway extending around the new staff parking lot to the front entrance for bus drop-off and pickup.*
- *Construct a clearly defined student drop-off area to improve safety and efficiency.*
- *Relocate and upgrade the playscape to the rear grass area behind the school and install perimeter fencing.*
- *Install fencing along the tree line to prevent students from entering the wooded area that slopes into a muddy and marsh-like section.*

To date there have been no comments received from the Building Department, Fire Marshal or Assessor.

5. Discontinuance Process

For the Commission's reference only, discontinuance will generally follow the outlined sequence as detailed below in Timeline for discontinuance of PTA Lane per C.G.S. § 13a-49, as prepared

by Town Attorney Cody. The process of discontinuance has no bearing on the Commission's findings with regard to this referral being consistent or not consistent with the POCD.

Following discontinuance, the land will remain under the ownership of the Town of Montville. The Town of Montville will then sell the land to Montville 1 LLC.

Timeline for discontinuance of PTA Lane per C.G.S. § 13a-49

The sequence of events required by the statute is as follows:

1. Notice to abutters must be "postmarked not less than 30 days prior to the date" of action by the Council ("Whenever the [Council] ... meet to take final action on the discontinuance or partial discontinuance ... , the [Council] shall provide written notice of their meeting to each owner of property that abuts such highway…Such notice shall be provided by mailing a notice of the date, time, place and subject of such meeting of the [Council] to such owner at such owner's address, as shown on the last-completed grand list of the town, by first class mail postmarked not less than thirty days prior to the date of such meeting").

2. In terms of identifying the roadway (may not be an issue here), the statute says "[i]f, in the opinion of the [Council], the boundary lines or limits of such highway or private way, or land dedicated as such, have become lost or uncertain, the [Council] shall make reasonable efforts to identify the boundary lines or limits of such highway or private way, or land dedicated as such, and shall give notice of such meeting to each owner of property that bounds such identified boundary line or limit in accordance with this subdivision."

3. "Thirty days prior to the date of such meeting, the town shall post a sign conspicuously on both ends of such highway ... or part thereof ... which shall include the date, time, place and subject of such meeting…

4. Meeting of Council to pass resolution ("take final action on") on discontinuance.

5. A regular or special town meeting is held to approve the Council's action ("the [Council] may, subject to approval by majority vote at any regular or special town meeting, as applicable, by a writing signed by them, discontinue any highway…")

6. Written notices of discontinuance are then sent to the same persons who received notice of the Council's meeting (Step 1 above), and a notice recorded on the land records per the statute, indicating the persons to whom such written notices were sent and their addresses per the most recent grand list.

So, for example, if the Council wishes to take final action to discontinue PTA Lane at its scheduled meeting on Wednesday, October 15, 2025, notices to abutters should be

postmarked no later than Friday, September 12, 2025 (due to the weekend). The sign on both ends of the highway must also be erected no later than Friday, September 12.

Then in this same example, following the final action by the Council on October 15, a town meeting would need to be lawfully noticed and held. There's no specific statutory deadline for this to occur following the Council's action.

If the motion to approve the action of the Council is itself approved at a town meeting, the Council must thereafter "provide written notice by certified mail, return receipt requested, of such discontinuance or partial discontinuance to the same persons" to whom notice was sent

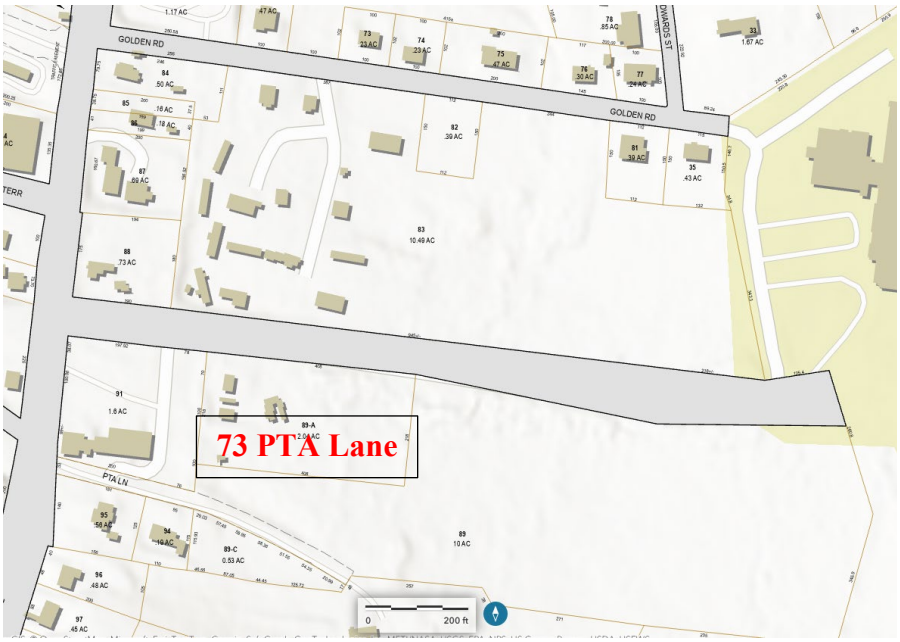
prior to the Council's action (there's no time limit for this either, but the date of the required recording of the names and addresses to whom the written notices were sent then triggers a statutory 120-day superior court appeal period for any person aggrieved by the discontinuance.

6. Consideration for Town Council

The following considerations are offered to the Mayor and for the Town Council's use when making a decision on this matter:

6.1 Affect of Discontinuance Upon Abutting Properties

Based upon property title search conducted by the Developer's legal counsel, and as reviewed by the Town's Attorney with concurrence, the land associated with PTA Lane originated with 87 PTA Lane. 87 PTA Lane was previously owned by the Town and purchased by the Developer in May 2025. Thus, following the discontinuance of PTA Lane and its sale, the land will revert to the owner (the Developer) and not abutting property owners.



In the instance of 73 PTA (see right), a parcel will be created without frontage, thus creating a non-conforming lot. Since this non-conformity is created through the discontinuance process,

the Town will have standing to apply for a variance and the Zoning Board of Appeals can approve such non-conformity.

6.2 Timing of Discontinuance and Offsite Improvements

a. **On-site School Improvements:** All on-site school improvements should be made in advance of PTA Lane closure to ensure school operations. This includes drive circulation for bus and parent drop off/pickup and parking reconfiguration. Should the playscape be impacted by said on-site school improvements, the new playscape shall be constructed and open for use, preferably in a sequence which does not impact student access to play.

b. **School Access:** The closure of access to the Mohegan School from PTA Lane shall not take place until after all necessary roadway improvements are completed to ensure appropriate, functional and adequate level of service can be achieved at Golden Road/RT 32 and all other impacted intersections or roads. Said improvements may include the permanent or temporary installation of measures to ensure operations and safety as approved by the OSTA/CT DOT and local traffic authority. A phasing plan shall be provided.

c. **Town Clerk Filing:** Filing of the PTA Lane discontinuance documents with the Town Clerk should not occur until after the Certificate of Zoning Compliance and Certificate of Occupancy has been issued.

6.3 Permanent School Operations & Safety @Mohegan School

a. **Emergency Access:** Maintain a dedicated emergency access point to the school parcel, generally in the vicinity of the existing PTA Lane connection with school property.

b. **Perimeter Security & Screening:** Install a permanent fence and a bermed, year-round, opaque landscape buffer along the shared property line.

c. **Playscape Relocation and Replacement:** Remove the existing playscape and provide a new, code-compliant, ADA-accessible playscape at the rear of the school.

d. **Circulation:** Reconfigure school site circulation to accommodate peak-hour bus and parent queues while maintaining the existing parking count.

6.4 Traffic & Public Infrastructure

a. **Traffic Study.** At time of site plan application, conduct a traffic study, as will be required for OSTA permits and pursuant to the Zoning Regulations. The study shall include evaluation of the impacts to Occum Lane, Edward, Park, Linda and extending to Massapeag Side Road. Include background turning movements counts.

b. **Golden Road Improvements:** Include a provision (i.e. right of improvement, easement) along the Golden Road frontage of the new consolidated parcels to

accommodate possible future widening (e.g., a three-lane section) for future development.

c. **Sidewalk.** Extend a sidewalk from Route 32 to the school entrance along Golden Road as is required by Zoning.

d. **Utility Easements(s):** Development should incorporate easements appropriate in size and configuration to accommodate future utility extensions, should they be needed, from Route 32 to the School property and in the vicinity of PTA Lane. The alternative routing should incorporate space for water, sewer, electric, communication and gas. This will ensure support of future growth in the areas identified in the POCD.

6.5 Route 32 Enhancements

a. Install sidewalks on both sides of Route 32.

b. Incorporate a pedestrian phase (signalization) for safe crossing, as permitted by OSTA. Coordinate cross walk locations with recommendations for raised medians and other safety recommendations as outlined in the Council of Government's Safety Action Plan.

c. **Golden/RT 32 Intersection:** Ensure appropriate turning/thru lanes accommodate staging. Ensure signal timing is appropriate for school hours. Design lane lengths to provide sufficient queue storage to prevent the obstruction of the McDonald's entrance on Golden Road; designated left, thru and right lanes (three total) may be required.

d. **Regional Safety Action Plan (SAP).** Incorporate applicable traffic mitigation measures recommended in the SAP.

6.6 Regulatory Compliance

a. **Variance of 73 PTA Lane**. Town or Developer should obtain a variance for said parcel without frontage.

b. **Route 32 Access Management.** To the extent practical, allow access to abutting properties for secondary means of access to ensure neighboring parcels can achieve their fullest development potential and eliminate the need for curb cuts along Route 32.

c. **Lot Consolidation.** All lots associated with the development shall be consolidated to one parcel.

d. **Zoning:** Developer shall petition for a zone change to a common underlying zoning district for all subject parcels.

e. **Performance Standards:** Adhere to the Town's updated draft zoning regulations regarding landscaping, lighting, utility appurtenances, and parking which are in draft form and anticipated to be in effective no later than June 29, 2026. These standards are in response to HB 8002 (aka the Housing Bill).

TOWN OF MONTVILLE

Office of the Mayor

310 Norwich-New London Turnpike
Uncasville, Connecticut 06382

February 10, 2026

Re: 8-24 Referral for Acquisition of PTA Lane

Dear Chairman Pieniadz,

In accordance with Section 8-24 of the Connecticut General Statutes, the Office of the Mayor and Finance Department hereby refer the proposed sale of the right-of-way known as PTA Lane to the Planning and Zoning Commission for review and report to the Town Council. The proposed sale includes the right-of-way's full length and width extending from Route 32 to its eastern boundary with the Mohegan Elementary School.

This referral is prompted by an unsolicited request from Montville 1 LLC (the Developer). The Developer, whom has acquired several contiguous parcels in the vicinity of PTA Lane, informs me that they seek to acquire PTA Lane to facilitate the development of the land for commercial purposes allowed under our zoning. While discussions have been on-going, their formal written request was just received.

I have carefully considered this request in consultation with staff and school district administration. I am confident all matters discussed will be communicated to you from various departments and included in the Land Use and Development's staff report.

It is my understanding that the Developer will be prepared to provide a presentation to the Commission at your February 24, 2026 meeting, at which time they will outline more details of their proposal to assist in the Commission's review.

I thank the Commission members for their continued service and attention to the matter.

Sincerely,

Leonard Bunnell
Mayor

Julie Chapman
Finance Director

Montville 1 LLC

433 S Main St, Suite 219 | W Hartford, CT 06110 | Phone 860-263-9194 | Fax 860-245-1901

February 9, 2026

Honorable Mayor Bunnell
Town of Montville
310 Norwich–New London Turnpike
Uncasville, Connecticut 06382

RE: Request for Abandonment of PTA Lane

Dear Mayor Bunnell,

I am the owner of the property located at 87 PTA Lane, Montville, Connecticut (the "Property"), and respectfully submit this request for the Town of Montville to consider the abandonment of PTA Lane pursuant to the Town's authority under Section 13a-49 et seq. of the Connecticut General Statutes, in connection with a proposed redevelopment of the Property.

The project contemplates the redevelopment of the Property with large format retail business(es) with associated upgrades to infrastructure, utilities, and landscaping. The proposed abandonment of PTA Lane is necessary to facilitate a cohesive site layout, safe and efficient vehicular circulation, and appropriate integration of site infrastructure, while remaining consistent with applicable Town standards.

The proposed redevelopment has been planned to align with the Town of Montville's Plan of Conservation and Development, including objectives related to economic development, reinvestment in established commercial areas, and enhancement of the Town's tax base, while maintaining compatibility with surrounding uses.

I respectfully request the opportunity to work with the Town, its staff, and elected officials through the applicable statutory and municipal review process to evaluate the proposed abandonment and advance this project in a manner that serves the best interests of the community.

Thank you for your time and consideration. Please do not hesitate to contact me should you require any additional information.

Respectfully submitted,

Domenic Carpionato
Montville 1 LLC

KWH Enterprise, LLC
277 Reservoir Avenue, Suite 1101
Meriden, CT 06451
Phone: (203) 807-5482
Cell: (203) 606-3525
kermit.hua@kwhenterprise.com

December 18, 2025

Dennis Goderre PLA, AICP CUD
Director of Land Use and Development
Town of Montville
310 Norwich-New London Tpke.
Uncasville, CT 06382

Reference: Traffic Evaluation of Discontinuing PTA Lane, Montville, Connecticut

Dear Dennis:

Thank you for asking me to prepare a traffic evaluation of discontinuing PTA Lane in Montville, Connecticut.

Summary

- Traffic operations of the Golden Road intersection and the PTA Lane intersection along Route 32 during weekday and Saturday peak hours were analyzed.

- There is no excessive traffic delay at the Golden Road intersection or at the PTA Lane intersection under the current conditions. All traffic movements at the two intersections are operating at acceptable LOS D or better during the peak hours.

- At the nearby Mohegan School, most parents currently park their cars and walk children to and from the school building during drop-off and pickup time. There is no excessive queuing of buses or parent vehicles on the site.

- The future conditions of the analysis take into account the increases in traffic volumes on Route 32 from three potential area developments and the effects of discontinuing PTA Lane. This future traffic scenario assumed that the development site at PTA Lane will not be connected to Golden Road.

- After PTA Lane is discontinued, the westbound traffic on Golden Road will experience delays and LOS (level of service) F during the weekday afternoon peak hour of the school.

- I recommend the widening of Golden Road at the Route 32 intersection to include a 100-foot-long left-turn lane to address the traffic delays. After this widening, all traffic movements at the Golden Road intersection will operate at acceptable LOS D or better during the peak hours. After PTA Lane is discontinued, a turnaround cul-de-sac is recommended at the southern end of the onsite connector road to allow parents to return to Golden Road in an orderly fashion.

Traffic Evaluation

This traffic evaluation covers the peak-hour traffic operations at two adjacent intersections on Route 32—the intersection of Route 32 and PTA Lane and the intersection of Route 32 and Golden Road—under the existing conditions and the future conditions after PTA Lane is discontinued.

I observed the weekday drop-off and pickup operations at the nearby Mohegan School in December 2025. Most parents parked in the large parking lot west of the school building or on the connector road west of the parking lot and walked the children to and from the school entrances. The rest of the children were dropped off and picked up along the curbside in front of the school building when the parent vehicles formed a short line. The school operates several buses. These buses have a separate circulation loop and usually don't arrive at the same time. There is no excessive queuing of school buses or parent vehicles on the site. After PTA Lane is discontinued, a turnaround cul-de-sac is recommended at the southern end of the connector road to allow parents to return to Golden Road in an orderly fashion.

Traffic counts were collected at the two intersections in May 2024 and November 2025. A seasonal adjustment factor of 1.14 and an annual growth rate of 0.6 percent were applied to the May 2024 counts to generate the 2025 traffic volumes during the peak summer month. A seasonal adjustment factor of 1.29 were applied to the November 2025 counts to generate the 2025 traffic volumes during the peak summer month. The seasonal adjustment factors were based on CTDOT information that is included in the Appendices. The annual traffic growth rate was recommended by the CTDOT Bureau of Policy and Planning.

Traffic operations during four peak hours were analyzed: the weekday morning peak commute hour, which does not coincide with the morning drop-off time of the Mohegan School; the weekday afternoon peak hour of the Mohegan School; the weekday afternoon peak commute hour; and the Saturday midday peak hour. The peak-hour volumes for the 2025 existing conditions are shown in Figures 1, 2, 3, and 4 of the Appendices. The peak-hour volumes after PTA Lane is discontinued are shown in Figures 5, 6, 7, and 8.

Table 1 details the capacity analysis results for the existing traffic conditions during the four peak hours. All traffic movements and intersections are operating at acceptable LOS (levels of service) D or better. There are no excessive traffic delays during the four peak hours.

Table 1 Capacity Analyses for Existing Conditions

Intersection	2025 Existing Condtions							
	Weekday Morning Peak Hour of Streets		Weekday Afternoon Peak Hour of School		Weekday Afternoon Peak Hour of Streets		Saturday Midday Peak Hour of Streets	
	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS
Rt. 32, Montville Commons Rd., and Golden Rd. (Signalized)								
EB Montville Commons Rd. Left Turn and Through	32.2	C	39.2	D	39.2	D	44.2	D
EB Montville Commons Rd. Right Turn	30.8	C	37.1	D	37.1	D	41.7	D
WB Golden Rd.	31.8	C	51.5	D	41.6	D	45.4	D
NB Rt. 32 Left Turn	8.1	A	8.8	A	7.6	A	8.4	A
NB Rt. 32 Through and Right Turn	16.5	B	21.8	C	20.0	B	17.4	B
SB Rt. 32 Left Turn	7.4	A	11.8	B	10.8	B	9.5	A
SB Rt. 32 Through and Right Turn	11.1	B	15.4	B	13.6	B	13.5	B
Intersection	14.8	B	22.8	C	19.7	B	20.2	C
Rt. 32 and PTA Ln. (Unsignalized)								
WB PTA Ln.	20.2	C	21.1	C	21.8	C	15.3	C
SB Rt. 32 Left Turn	9.1	A	9.2	A	0.0	A	0.0	A

EB Eastbound
WB Westbound
NB Northbound
SB Southbound
LOS Level of Service

Table 2 shows the capacity analysis results for the traffic conditions after PTA Lane is discontinued. The traffic volumes at the intersection of Route 32 and Golden Road were adjusted to reflect discontinuing PTA Lane and the increases in traffic volumes on Route 32 generated by three potential developments in the area.

The three potential developments in the area include the approved 200-unit apartment site at 1758 and 1790 Norwich New London Turnpike, a gas station on Route 32 to the north, and a development near the existing PTA Lane. An additional traffic volume of 200 vehicles (100 vehicles for each approach of Route 32) was added to the through traffic on Route 32 for each of the four peak hours to reflect the traffic impact of these three developments. For context, the approved 200-unit apartment development is projected to generate 74 and 78 vehicular trips during the respective weekday morning and afternoon peak hours of the streets.

The analysis results in Table 2 show that there will be some increases in traffic delays as a result of the higher traffic volumes at the intersection of Route 32 and Golden Road. Most traffic approaches will continue to operate at acceptable LOS D or better with relatively short

delays. The exception is the westbound Golden Road approach, which will experience an average delay of 89.5 seconds per vehicle and a LOS F during the weekday afternoon peak hour of the school.

Table 2 Capacity Analyses for Future Conditions After Discontinuing PTA Lane

Intersection	Future Condtions of Discontinuing PTA Lane							
	Weekday Morning Peak Hour of Streets		Weekday Afternoon Peak Hour of School		Weekday Afternoon Peak Hour of Streets		Saturday Midday Peak Hour of Streets	
	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS	Delay (Sec.)	LOS
Rt. 32, Montville Commons Rd., and Golden Rd. (Signalized)								
EB Montville Commons Rd. Left Turn and Through	32.2	C	39.2	D	39.2	D	44.2	D
EB Montville Commons Rd. Right Turn	30.8	C	37.1	D	37.1	D	41.7	D
WB Golden Rd.	32.1	C	**89.5**	**F**	42.2	D	45.7	D
NB Rt. 32 Left Turn	8.2	A	9.4	A	7.9	A	8.6	A
NB Rt. 32 Through and Right Turn	21.5	C	28.6	C	25.6	C	20.2	C
SB Rt. 32 Left Turn	9.1	A	14.7	B	13.4	B	10.8	B
SB Rt. 32 Through and Right Turn	11.7	B	16.6	B	14.6	B	14.2	B
Intersection	17.0	B	30.3	C	22.2	C	21.1	C

EB Eastbound
WB Westbound
NB Northbound
SB Southbound
LOS Level of Service

I recommend the addition of a westbound left-turn lane on Golden Road at Route 32 to address the traffic delays and the LOS F for this approach. The proposed left-turn lane will measure 100 feet in length, enough to store up to five waiting vehicles. A cursory review of the Town GIS map appears to indicate that there is enough right-of-way width for this widening of Golden Road. The road widening will require the relocation of several utility poles and a pedestrian pedestal north of Golden Road and the installation of a retaining wall and a guiderail between Golden Road and the McDonald's parking lot.

As shown in Table 3, after the addition of the left-turn lane on Golden Road at the Route 32 intersection, all traffic approaches at this intersection will operate at acceptable LOS D or better during the peak hours. The 100-foot left-turn lane on Golden Road should be able to handle the estimated 95th-percentile left-turn queue of 94 feet during the weekday afternoon peak hour of the school. A 95th-percentile queue refers to a queue associated with a 95th-percentile traffic volume.

Table 3 Capacity Analyses for Future Conditions with Improvements

Intersection	Future Condtions of Discontinuing PTA Lane with Improvements											
	Weekday Morning Peak Hour of Streets			Weekday Afternoon Peak Hour of School			Weekday Afternoon Peak Hour of Streets			Saturday Midday Peak Hour of Streets		
	Delay (Sec.)	95th-Per. Queue (Ft.)	LOS	Delay (Sec.)	95th-Per. Queue (Ft.)	LOS	Delay (Sec.)	95th-Per. Queue (Ft.)	LOS	Delay (Sec.)	95th-Per. Queue (Ft.)	LOS
Rt. 32, Montville Commons Rd., and Golden Rd. (Signalized)												
EB Montville Commons Rd. Left Turn and Through	32.2	28	C	39.2	72	D	39.2	72	D	44.2	80	D
EB Montville Commons Rd. Right Turn	30.8	0	C	37.1	29	D	37.1	37	D	41.7	43	D
WB Golden Rd. Left Turn	32.8	28	C	40.7	94	D	41.2	51	D	46.4	65	D
WB Golden Rd. Through and Right Turn	31.9	28	C	38.0	65	D	39.8	42	D	44.0	50	D
NB Rt. 32 Left Turn	7.6	21	A	8.8	53	A	7.6	51	A	7.6	56	A
NB Rt. 32 Through and Right Turn	19.4	390	B	26.2	647	C	24.3	675	C	17.9	455	B
SB Rt. 32 Left Turn	8.3	41	A	13.6	46	B	12.8	36	B	9.5	46	A
SB Rt. 32 Through and Right Turn	10.9	141	B	15.7	194	B	14.0	189	B	12.7	164	B
Intersection	15.8	-	B	23.4	-	C	21.4	-	C	19.5	-	B

EB Eastbound
WB Westbound
NB Northbound
SB Southbound
LOS Level of Service

I appreciate the opportunity to prepare this letter. Should you have any questions or need additional information, please feel free to contact me.

Sincerely,

KWH Enterprise, LLC

Kermit Hua

Kermit Hua, PE, PTOE
Principal
kermit.hua@kwhenterprise.com
Cell: (203) 606-3525

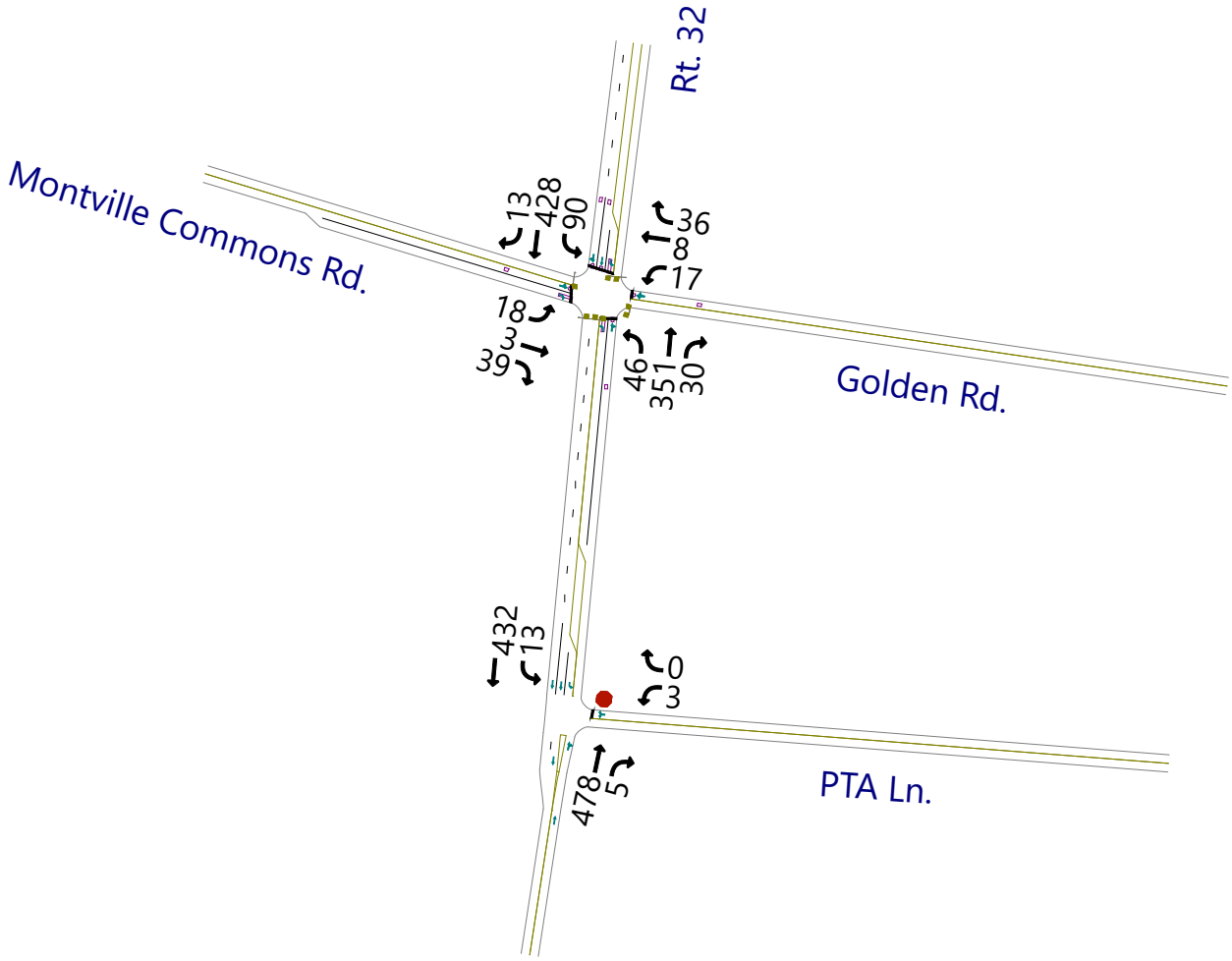


Figure 1 2025 Existing Traffic Volumes
Weekday Morning Peak Hour of Adjacent Streets

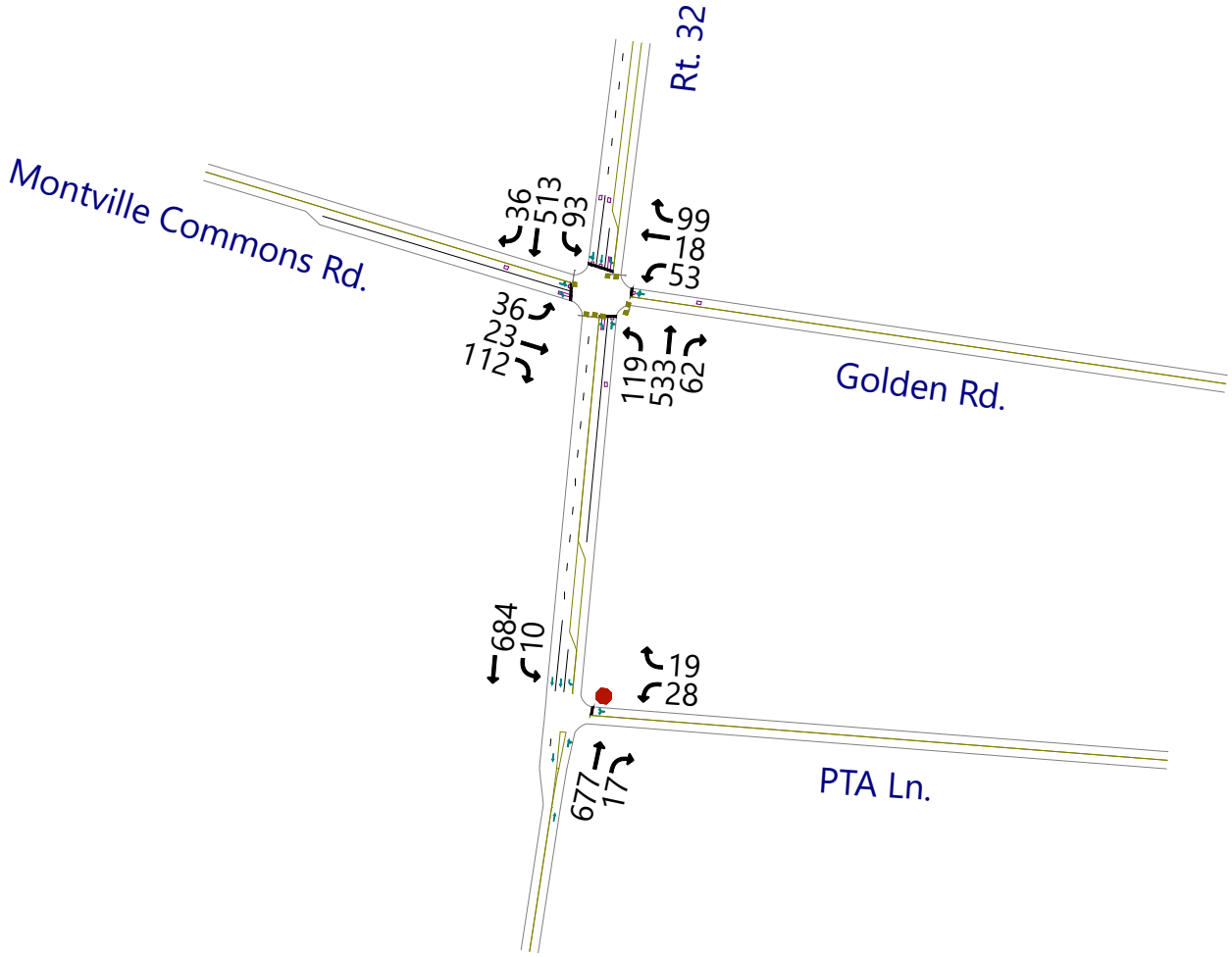


Figure 2 2025 Existing Traffic Volumes
Weekday Afternoon Peak Hour of Mohegan School

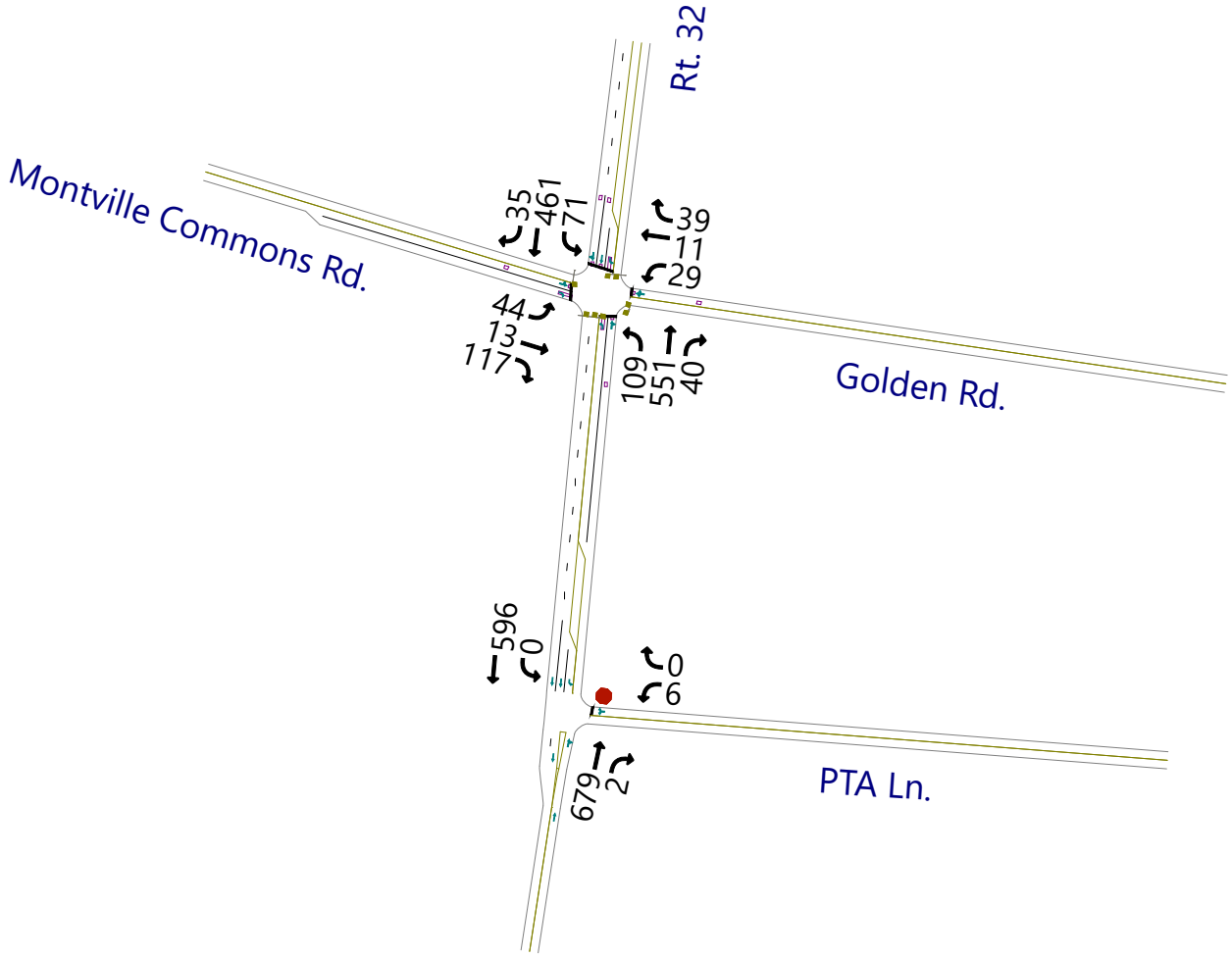


Figure 3 2025 Existing Traffic Volumes
Weekday Afternoon Peak Hour of Adjacent Streets

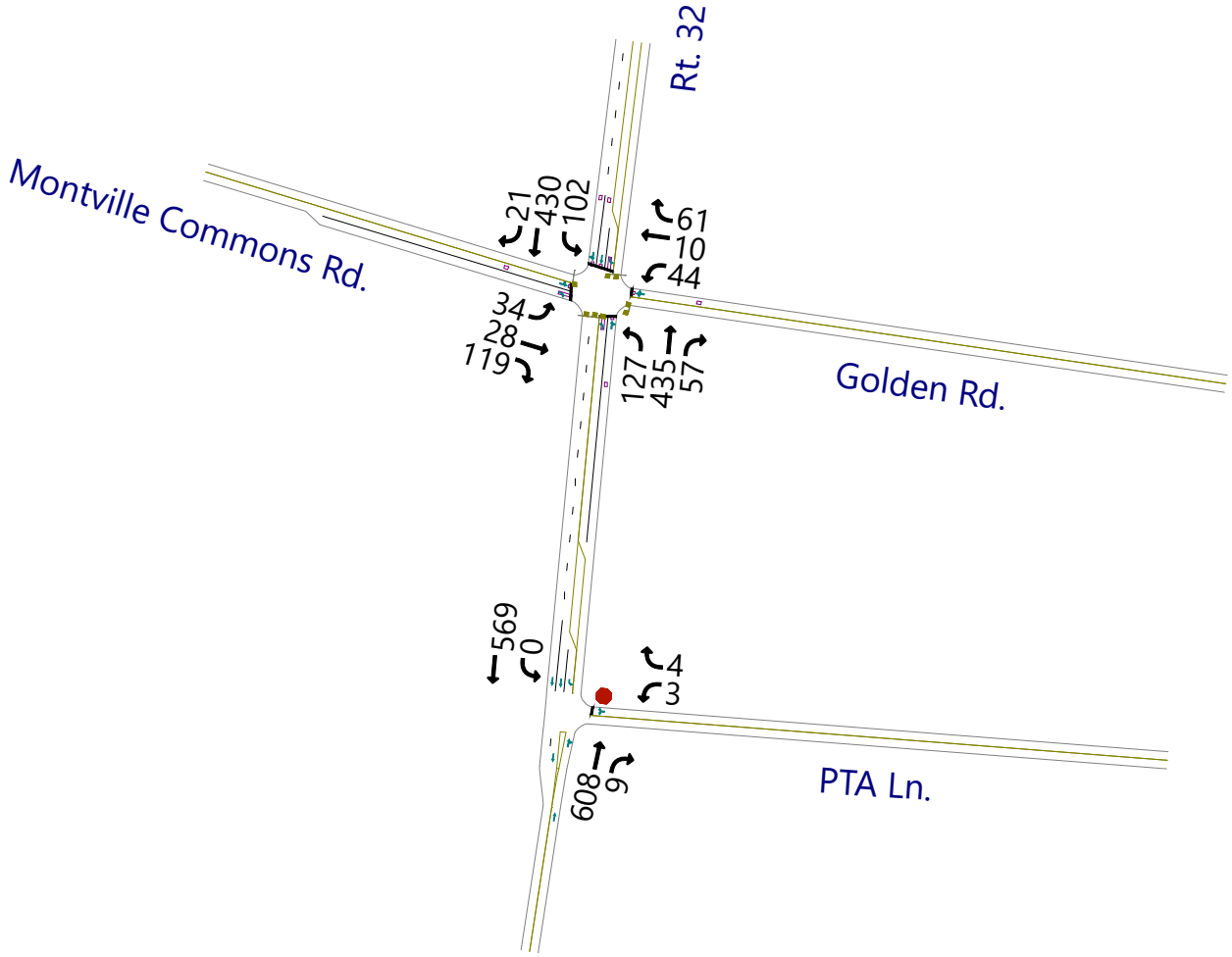


Figure 4 2025 Existing Traffic Volumes
Saturday Midday Peak Hour of Adjacent Streets

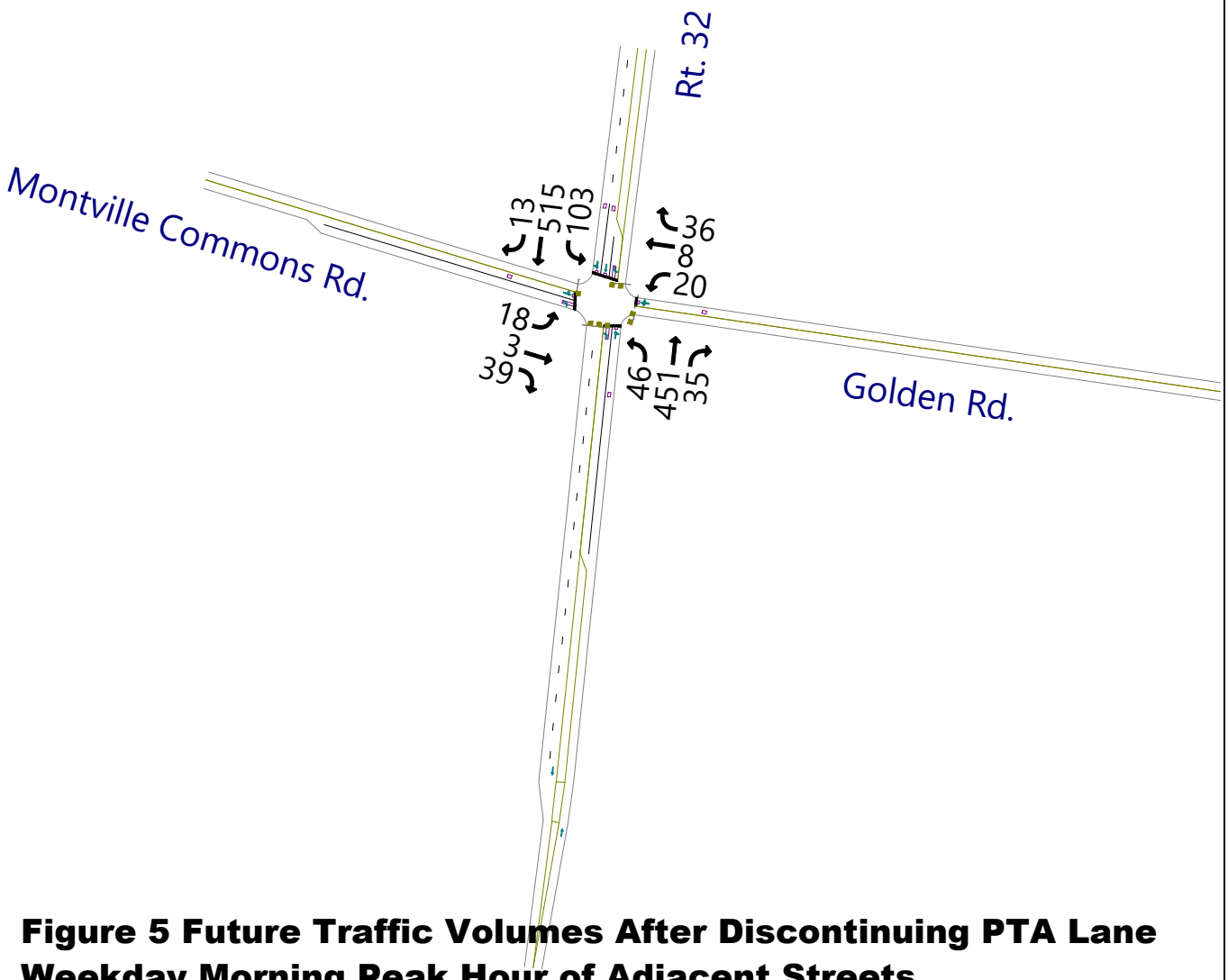


Figure 5 Future Traffic Volumes After Discontinuing PTA Lane Weekday Morning Peak Hour of Adjacent Streets

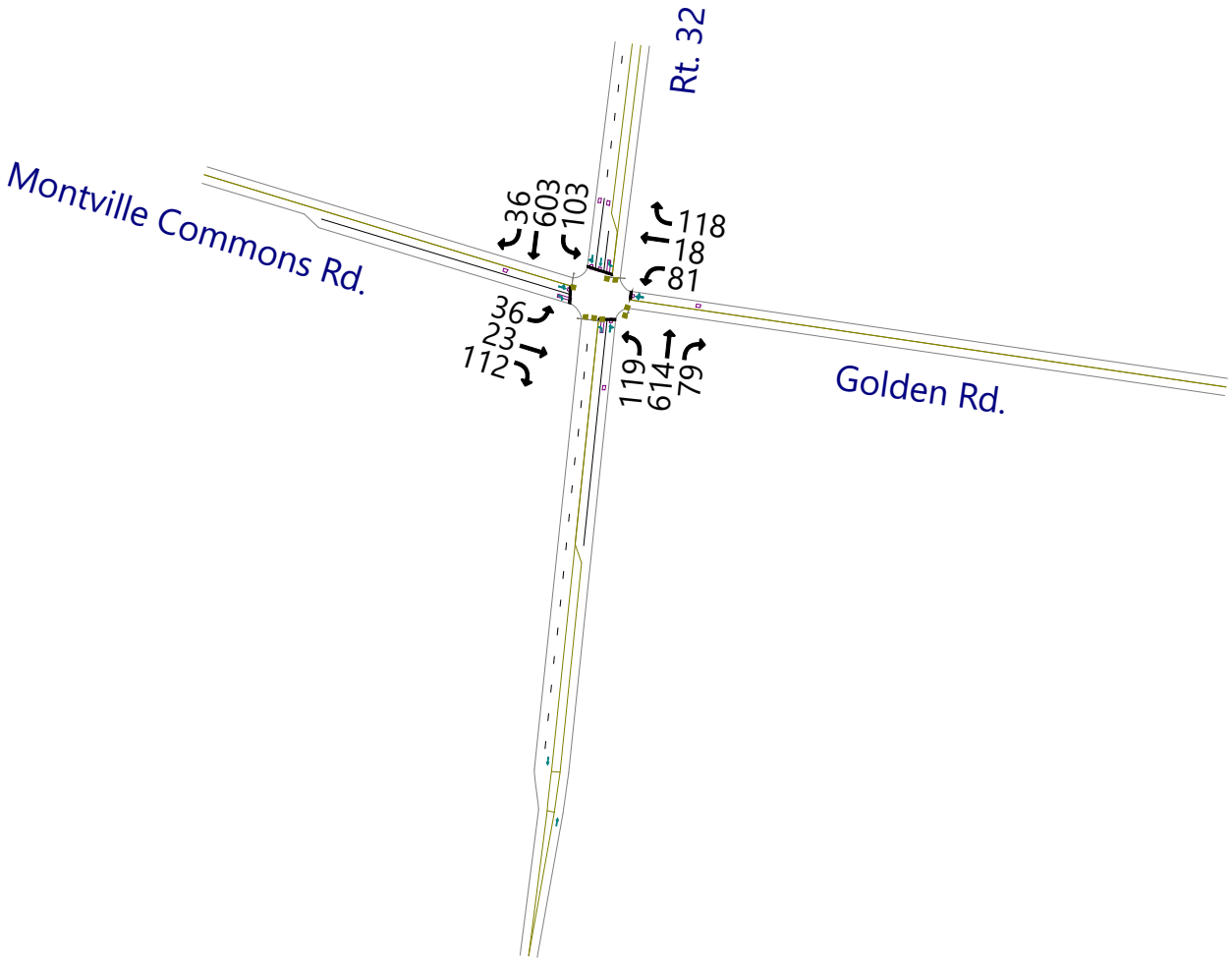


Figure 6 Future Traffic Volumes After Discontinuing PTA Lane Weekday Afternoon Peak Hour of Mohegan School

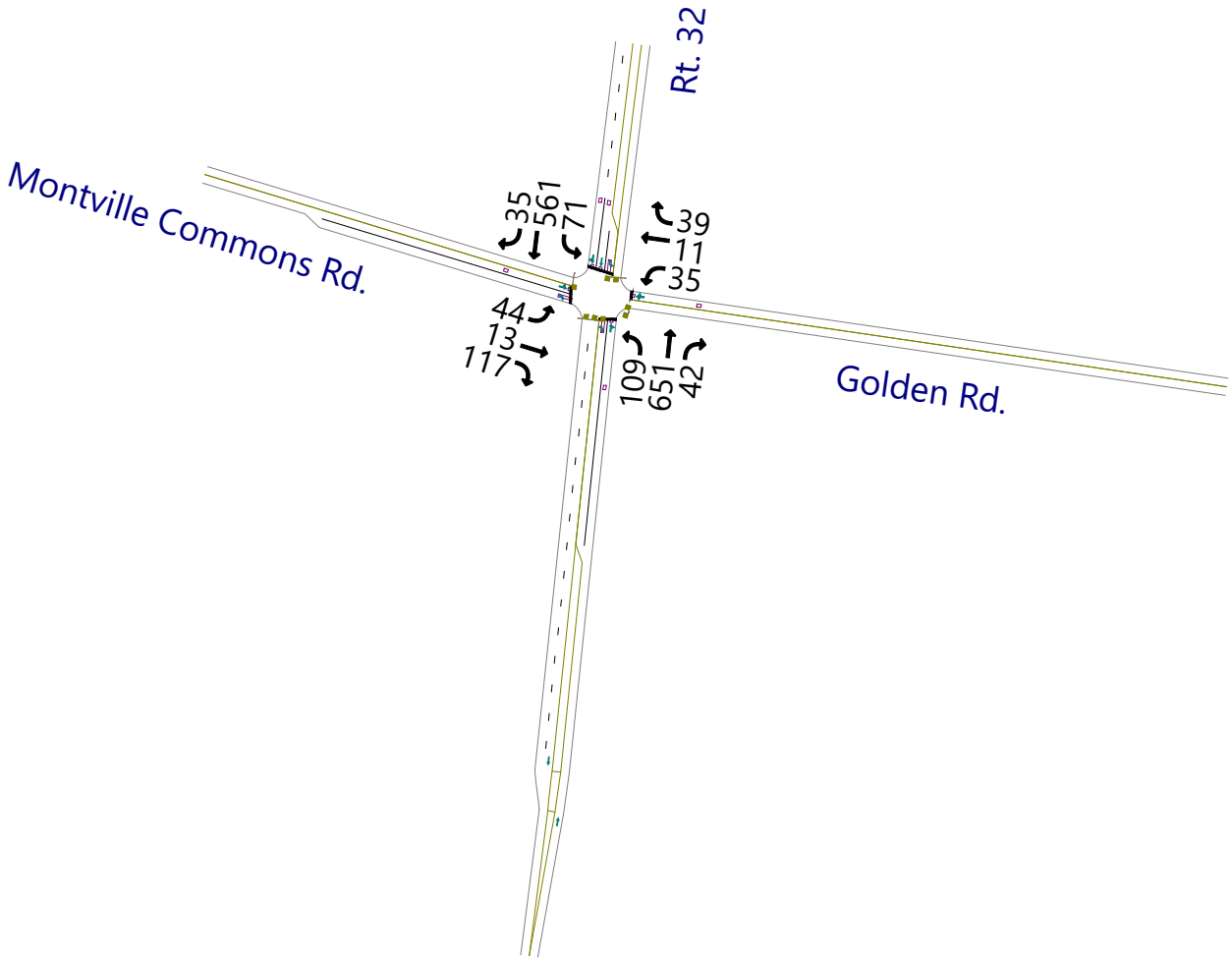


Figure 7 Future Traffic Volumes After Discontinuing PTA Lane Weekday Afternoon Peak Hour of Adjacent Streets

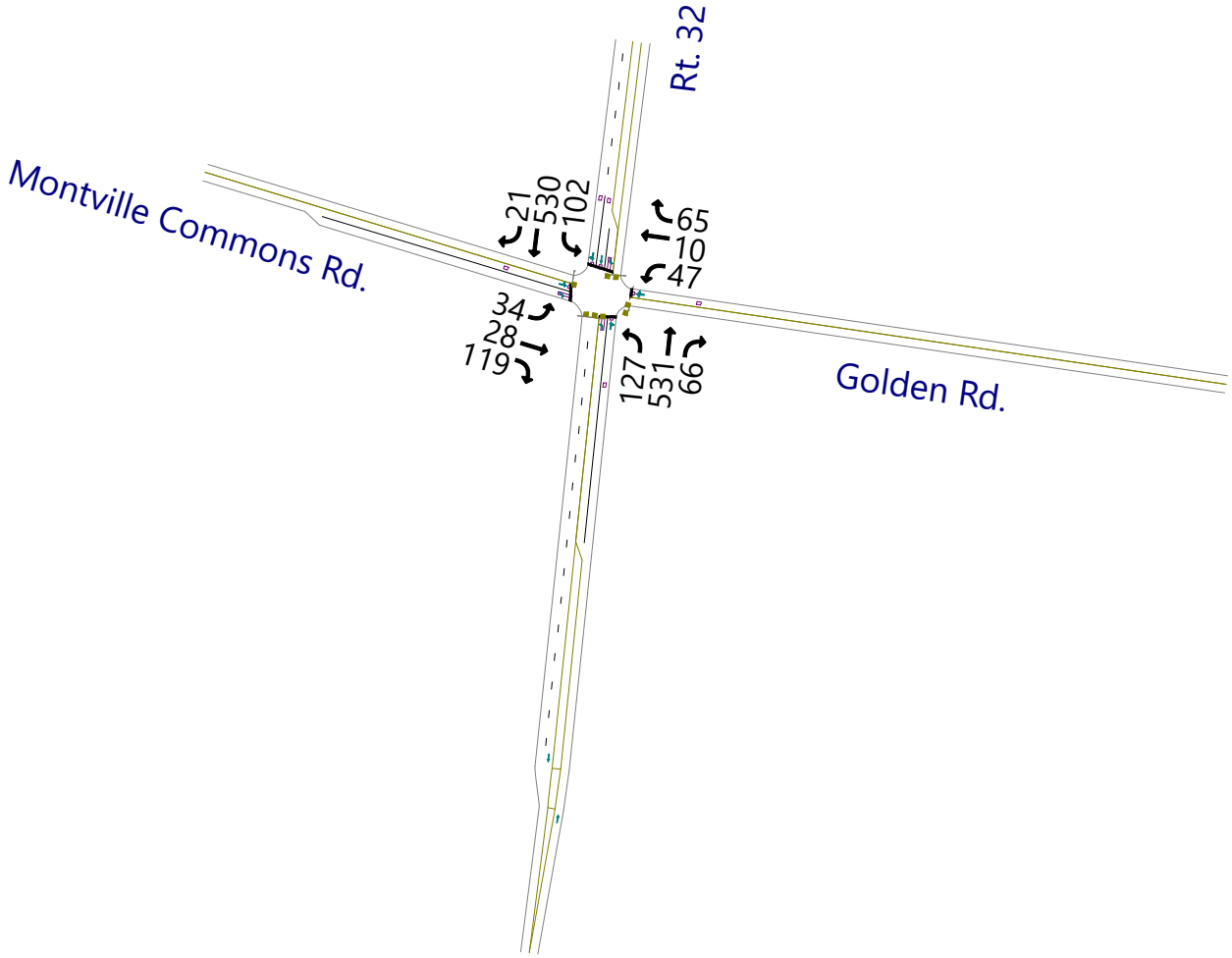


Figure 8 Future Traffic Volumes After Discontinuing PTA Lane Saturday Midday Peak Hour of Adjacent Streets

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF POLICY & PLANNING - ROADWAY INFORMATION SYSTEMS
TRAFFIC DATA COLLECTION & VERIFICATION SECTION

FACTORS FOR EXPANDING 24-HOUR COUNTS TO
ANNUAL AVERAGE DAILY TRAFFIC VOLUMES
(BASED ON 2018 CONTINUOUS COUNT STATION DATA)

GROUP - 1 * * INTERSTATE * *

STATION(S): 7, 12, 24, 30, 31, 32, 53, 54

AVG.	WEEKDAY	FRIDAY	SATURDAY	SUNDAY
JANUARY	1.08	1.03	1.21	1.41
FEBRUARY	1.04	0.96	1.13	1.45
MARCH	1.05	0.93	1.05	1.21
APRIL	0.99	0.91	1.03	1.17
MAY	0.94	0.83	0.98	1.10
JUNE	0.95	0.90	0.99	1.08
JULY	0.95	0.91	0.97	1.08
AUGUST	0.94	0.86	0.99	1.06
SEPTEMBER	0.99	0.89	0.99	1.08
OCTOBER	0.98	0.90	1.00	1.12
NOVEMBER	0.98	0.98	1.03	1.13
DECEMBER	1.00	0.96	1.04	1.22

GROUP - 2 * * RURAL * *

STATION(S): 4, 10, 16, 20, 50, 51

AVG.	WEEKDAY	FRIDAY	SATURDAY	SUNDAY
JANUARY	1.12	1.08	1.17	1.48
FEBRUARY	1.12	1.05	1.16	1.55
MARCH	1.08	1.04	1.06	1.32
APRIL	1.05	0.95	0.94	1.29
MAY	0.95	0.89	0.95	1.04
JUNE	0.91	0.80	0.87	0.95
JULY	0.93	0.84	0.87	0.98
AUGUST	0.89	0.83	0.90	0.93
SEPTEMBER	0.97	0.88	0.91	1.02
OCTOBER	0.98	0.88	0.97	1.08
NOVEMBER	1.00	1.02	1.09	1.21
DECEMBER	1.08	1.09	1.11	1.29

GROUP - 3 * * INTERSTATE * *

STATION(S): 27 (I-84 FROM ROUTE 195 TO MASS. STATE LINE)

AVG.	WEEKDAY	FRIDAY	SATURDAY	SUNDAY
JANUARY	1.02	1.10	1.25	0.99
FEBRUARY	0.86	0.81	1.02	1.22
MARCH	1.46	0.91	0.94	0.93
APRIL	1.22	0.96	1.00	1.00
MAY	1.07	0.73	0.99	0.90
JUNE	1.04	0.84	0.96	0.71
JULY	0.98	0.84	0.80	0.74
AUGUST	0.81	0.75	0.89	0.79
SEPTEMBER	1.11	1.09	1.13	0.81
OCTOBER	1.04	1.06	1.30	0.99
NOVEMBER	1.26	1.24	1.15	0.64
DECEMBER	1.14	0.33	0.43	0.79

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF POLICY & PLANNING - ROADWAY INFORMATION SYSTEMS
TRAFFIC MONITORING & DATA ANALYSIS SECTION

FACTORS FOR EXPANDING 24-HOUR COUNTS TO
ANNUAL AVERAGE DAILY TRAFFIC VOLUMES
(BASED ON 2018 CONTINUOUS COUNT STATION DATA)

GROUP - 4 * * URBAN * *

STATION(S): 8, 9, 11, 15, 17, 22, 23, 28, 47, 48, 52

AVG.	WEEKDAY	FRIDAY	SATURDAY	SUNDAY
JANUARY	1.03	1.00	1.18	1.46
FEBRUARY	1.03	0.95	1.14	1.49
MARCH	0.97	0.94	1.07	1.30
APRIL	0.98	0.90	1.03	1.26
MAY	0.92	0.83	1.01	1.21
JUNE	0.91	0.85	1.01	1.15
JULY	0.95	0.89	1.06	1.22
AUGUST	0.95	0.89	1.09	1.23
SEPTEMBER	0.96	0.88	1.03	1.20
OCTOBER	0.95	0.86	1.05	1.16
NOVEMBER	0.97	0.97	1.08	1.27
DECEMBER	0.99	0.96	1.06	1.24

GROUP - 5 * *NORTHWEST RECREATIONAL * *

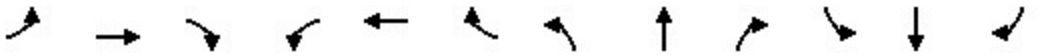
STATION(S): 1 (Station 18 not available on 2018)

AVG.	WEEKDAY	FRIDAY	SATURDAY	SUNDAY
JANUARY	1.29	1.18	1.05	1.21
FEBRUARY	1.24	1.10	1.02	1.34
MARCH	1.28	1.06	1.14	1.24
APRIL	1.04	0.88	0.96	0.85
MAY	1.00	0.83	0.78	0.80
JUNE	0.96	0.80	0.79	0.77
JULY	0.91	0.80	0.71	0.61
AUGUST	0.94	0.75	0.76	0.71
SEPTEMBER	0.99	0.85	0.69	0.73
OCTOBER	0.95	0.71	0.69	0.68
NOVEMBER	1.15	1.05	1.08	1.06
DECEMBER	1.13	1.11	1.09	1.25

GROUP - 6 * * SOUTHEAST RECREATIONAL * *

STATION(S): 5, 33, 44, 46

AVG.	WEEKDAY	FRIDAY	SATURDAY	SUNDAY
JANUARY	1.24	1.08	1.05	1.22
FEBRUARY	1.17	1.00	0.98	1.21
MARCH	1.19	0.98	0.93	1.06
APRIL	1.13	0.91	0.86	1.00
MAY	1.04	0.85	0.84	0.92
JUNE	1.00	0.80	0.81	0.88
JULY	0.91	0.77	0.75	0.79
AUGUST	0.92	0.75	0.77	0.80
SEPTEMBER	1.07	0.89	0.84	0.92
OCTOBER	1.10	0.89	0.93	0.98
NOVEMBER	1.17	0.97	0.93	1.04
DECEMBER	1.16	1.00	0.97	1.15



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	3	39	17	8	36	46	351	30	90	428	13
Future Volume (vph)	18	3	39	17	8	36	46	351	30	90	428	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	0.95	
Frt		1.00	0.85		0.92		1.00	0.99		1.00	1.00	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1752	1553		1657		1736	1805		1736	3456	
Flt Permitted		0.96	1.00		0.99		0.44	1.00		0.35	1.00	
Satd. Flow (perm)		1752	1553		1657		797	1805		642	3456	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	23	4	51	22	10	47	60	456	39	117	556	17
RTOR Reduction (vph)	0	0	48	0	43	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	27	3	0	36	0	60	495	0	117	570	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Prot	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	7	7	4	4		5	2		1	6	
Permitted Phases							2			6		
Actuated Green, G (s)		4.5	4.5		5.3		37.2	32.9		41.2	34.9	
Effective Green, g (s)		4.5	4.5		5.3		37.2	32.9		41.2	34.9	
Actuated g/C Ratio		0.06	0.06		0.08		0.53	0.47		0.59	0.50	
Clearance Time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		112	99		125		481	848		476	1723	
v/s Ratio Prot		c0.02	0.00		c0.02		0.01	c0.27		c0.02	0.17	
v/s Ratio Perm							0.06			0.12		
v/c Ratio		0.24	0.03		0.28		0.12	0.58		0.25	0.33	
Uniform Delay, d1		31.1	30.7		30.6		8.0	13.5		7.1	10.5	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.1	0.1		1.3		0.1	2.9		0.3	0.5	
Delay (s)		32.2	30.8		31.8		8.1	16.5		7.4	11.1	
Level of Service		C	C		C		A	B		A	B	
Approach Delay (s/veh)		31.3			31.8			15.6			10.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

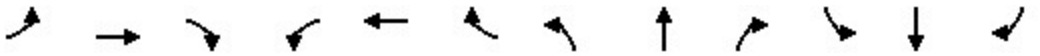
Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	0	478	5	13	432
Future Vol, veh/h	3	0	478	5	13	432
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	-	-	-	60	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	4	0	673	7	18	608

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1018	677	0	0	680	0
Stage 1	677	-	-	-	-	-
Stage 2	341	-	-	-	-	-
Critical Hdwy	6.645	6.245	-	-	4.145	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.5285	3.3285	-	-	2.2285	-
Pot Cap-1 Maneuver	246	450	-	-	904	-
Stage 1	502	-	-	-	-	-
Stage 2	690	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	241	450	-	-	904	-
Mov Cap-2 Maneuver	241	-	-	-	-	-
Stage 1	502	-	-	-	-	-
Stage 2	676	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	20.18	0	0.26
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	241	904	-
HCM Lane V/C Ratio	-	-	0.018	0.02	-
HCM Ctrl Dly (s/v)	-	-	20.2	9.1	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	23	112	53	18	99	119	533	62	93	513	36
Future Volume (vph)	36	23	112	53	18	99	119	533	62	93	513	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	0.95	
Frt		1.00	0.85		0.92		1.00	0.98		1.00	0.99	
Flt Protected		0.97	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1807	1583		1690		1770	1834		1770	3504	
Flt Permitted		0.97	1.00		0.98		0.39	1.00		0.27	1.00	
Satd. Flow (perm)		1807	1583		1690		724	1834		499	3504	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	38	24	118	56	19	104	125	561	65	98	540	38
RTOR Reduction (vph)	0	0	106	0	56	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	62	12	0	123	0	125	626	0	98	573	0
Turn Type	Split	NA	Prot	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	7	7	4	4		5	2		1	6	
Permitted Phases							2			6		
Actuated Green, G (s)		8.8	8.8		9.3		52.6	44.5		49.2	42.8	
Effective Green, g (s)		8.8	8.8		9.3		52.6	44.5		49.2	42.8	
Actuated g/C Ratio		0.10	0.10		0.10		0.58	0.49		0.55	0.48	
Clearance Time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		176	154		174		517	906		363	1666	
v/s Ratio Prot		c0.03	0.01		c0.07		c0.02	c0.34		0.02	0.16	
v/s Ratio Perm							0.12			0.13		
v/c Ratio		0.35	0.07		0.71		0.24	0.69		0.27	0.34	
Uniform Delay, d1		37.9	36.9		39.0		8.5	17.5		11.4	14.8	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.2	0.2		12.4		0.2	4.3		0.4	0.6	
Delay (s)		39.2	37.1		51.5		8.8	21.8		11.8	15.4	
Level of Service		D	D		D		A	C		B	B	
Approach Delay (s/veh)		37.8			51.5			19.6			14.8	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

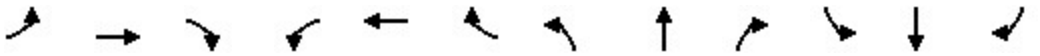
Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	19	677	17	10	684
Future Vol, veh/h	28	19	677	17	10	684
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	-	-	-	60	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	29	20	705	18	10	713

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1091	714	0	0	723	0
Stage 1	714	-	-	-	-	-
Stage 2	377	-	-	-	-	-
Critical Hdwy	6.645	6.245	-	-	4.145	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.5285	3.3285	-	-	2.2285	-
Pot Cap-1 Maneuver	222	428	-	-	872	-
Stage 1	482	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	219	428	-	-	872	-
Mov Cap-2 Maneuver	219	-	-	-	-	-
Stage 1	482	-	-	-	-	-
Stage 2	654	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	21.05	0	0.13
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	273	872	-
HCM Lane V/C Ratio	-	-	0.179	0.012	-
HCM Ctrl Dly (s/v)	-	-	21.1	9.2	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	13	117	29	11	39	109	551	40	71	461	35
Future Volume (vph)	44	13	117	29	11	39	109	551	40	71	461	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	0.95	
Frt		1.00	0.85		0.93		1.00	0.99		1.00	0.99	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1794	1583		1708		1770	1844		1770	3502	
Flt Permitted		0.96	1.00		0.98		0.40	1.00		0.26	1.00	
Satd. Flow (perm)		1794	1583		1708		749	1844		480	3502	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	50	15	133	33	13	44	124	626	45	81	524	40
RTOR Reduction (vph)	0	0	120	0	40	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	65	13	0	50	0	124	671	0	81	559	0
Turn Type	Split	NA	Prot	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	7	7	4	4		5	2		1	6	
Permitted Phases							2			6		
Actuated Green, G (s)		8.9	8.9		6.8		55.2	47.3		51.4	45.4	
Effective Green, g (s)		8.9	8.9		6.8		55.2	47.3		51.4	45.4	
Actuated g/C Ratio		0.10	0.10		0.08		0.61	0.53		0.57	0.50	
Clearance Time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		177	156		129		549	969		360	1766	
v/s Ratio Prot		c0.04	0.01		c0.03		c0.02	c0.36		0.01	0.16	
v/s Ratio Perm							0.12			0.11		
v/c Ratio		0.37	0.08		0.39		0.23	0.69		0.23	0.32	
Uniform Delay, d1		37.9	36.8		39.6		7.3	15.9		10.4	13.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3	0.2		1.9		0.2	4.1		0.3	0.5	
Delay (s)		39.2	37.1		41.6		7.6	20.0		10.8	13.6	
Level of Service		D	D		D		A	B		B	B	
Approach Delay (s/veh)		37.8			41.6			18.0			13.3	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

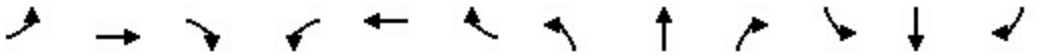
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	0	679	2	0	596
Future Vol, veh/h	6	0	679	2	0	596
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	-	-	-	60	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	0	763	2	0	670

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1099	764	0	0	765	0
Stage 1	764	-	-	-	-	-
Stage 2	335	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	221	403	-	-	846	-
Stage 1	459	-	-	-	-	-
Stage 2	697	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	221	403	-	-	846	-
Mov Cap-2 Maneuver	221	-	-	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	697	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	21.84	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	221	846	-
HCM Lane V/C Ratio	-	-	0.031	-	-
HCM Ctrl Dly (s/v)	-	-	21.8	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	28	119	44	10	61	127	435	57	102	430	21
Future Volume (vph)	34	28	119	44	10	61	127	435	57	102	430	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	0.95	
Frt		1.00	0.85		0.93		1.00	0.98		1.00	0.99	
Flt Protected		0.97	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1831	1599		1713		1787	1849		1787	3549	
Flt Permitted		0.97	1.00		0.98		0.47	1.00		0.37	1.00	
Satd. Flow (perm)		1831	1599		1713		880	1849		695	3549	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	35	29	124	46	10	64	132	453	59	106	448	22
RTOR Reduction (vph)	0	0	113	0	43	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	64	11	0	77	0	132	512	0	106	467	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	Prot	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	7	7	4	4		5	2		1	6	
Permitted Phases							2			6		
Actuated Green, G (s)		9.2	9.2		9.3		61.1	52.8		59.9	52.2	
Effective Green, g (s)		9.2	9.2		9.3		61.1	52.8		59.9	52.2	
Actuated g/C Ratio		0.09	0.09		0.09		0.61	0.53		0.60	0.52	
Clearance Time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		168	147		159		612	976		500	1852	
v/s Ratio Prot		c0.03	0.01		c0.05		c0.02	c0.28		0.02	0.13	
v/s Ratio Perm							0.11			0.11		
v/c Ratio		0.38	0.08		0.49		0.22	0.52		0.21	0.25	
Uniform Delay, d1		42.7	41.5		43.1		8.2	15.4		9.3	13.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4	0.2		2.3		0.2	2.0		0.2	0.3	
Delay (s)		44.2	41.7		45.4		8.4	17.4		9.5	13.5	
Level of Service		D	D		D		A	B		A	B	
Approach Delay (s/veh)		42.6			45.4			15.6			12.8	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

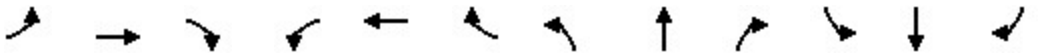
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	4	608	9	0	569
Future Vol, veh/h	3	4	608	9	0	569
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	-	-	-	60	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	4	647	10	0	605

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	954	652	0	0	656	0
Stage 1	652	-	-	-	-	-
Stage 2	303	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	271	467	-	-	929	-
Stage 1	518	-	-	-	-	-
Stage 2	724	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	271	467	-	-	929	-
Mov Cap-2 Maneuver	271	-	-	-	-	-
Stage 1	518	-	-	-	-	-
Stage 2	724	-	-	-	-	-

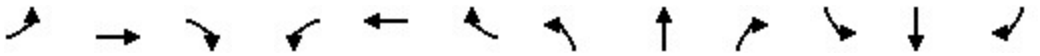
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	15.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	357	929	-
HCM Lane V/C Ratio	-	-	0.021	-	-
HCM Ctrl Dly (s/v)	-	-	15.3	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	3	39	20	8	36	46	451	35	103	515	13
Future Volume (vph)	18	3	39	20	8	36	46	451	35	103	515	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	0.95	
Frt		1.00	0.85		0.92		1.00	0.99		1.00	1.00	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1752	1553		1661		1736	1807		1736	3458	
Flt Permitted		0.96	1.00		0.98		0.39	1.00		0.23	1.00	
Satd. Flow (perm)		1752	1553		1661		714	1807		423	3458	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	23	4	51	26	10	47	60	586	45	134	669	17
RTOR Reduction (vph)	0	0	48	0	43	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	27	3	0	40	0	60	631	0	134	684	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Prot	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	7	7	4	4		5	2		1	6	
Permitted Phases							2			6		
Actuated Green, G (s)		4.5	4.5		5.3		36.9	32.6		41.5	34.9	
Effective Green, g (s)		4.5	4.5		5.3		36.9	32.6		41.5	34.9	
Actuated g/C Ratio		0.06	0.06		0.08		0.53	0.47		0.59	0.50	
Clearance Time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		112	99		125		439	841		374	1724	
v/s Ratio Prot		c0.02	0.00		c0.02		0.01	c0.35		c0.03	0.20	
v/s Ratio Perm							0.06			0.18		
v/c Ratio		0.24	0.03		0.32		0.14	0.75		0.36	0.40	
Uniform Delay, d1		31.1	30.7		30.6		8.1	15.4		8.5	11.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.1	0.1		1.5		0.1	6.1		0.6	0.7	
Delay (s)		32.2	30.8		32.1		8.2	21.5		9.1	11.7	
Level of Service		C	C		C		A	C		A	B	
Approach Delay (s/veh)		31.3			32.1			20.3			11.2	
Approach LOS		C			C			C			B	

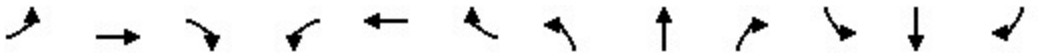
Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	23	112	81	18	118	119	614	79	103	603	36
Future Volume (vph)	36	23	112	81	18	118	119	614	79	103	603	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	0.95	
Frt		1.00	0.85		0.93		1.00	0.98		1.00	0.99	
Flt Protected		0.97	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1807	1583		1694		1770	1831		1770	3509	
Flt Permitted		0.97	1.00		0.98		0.34	1.00		0.17	1.00	
Satd. Flow (perm)		1807	1583		1694		624	1831		318	3509	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	38	24	118	85	19	124	125	646	83	108	635	38
RTOR Reduction (vph)	0	0	106	0	48	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	62	12	0	180	0	125	729	0	108	669	0
Turn Type	Split	NA	Prot	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	7	7	4	4		5	2		1	6	
Permitted Phases							2			6		
Actuated Green, G (s)		8.8	8.8		10.1		51.6	43.5		48.6	42.0	
Effective Green, g (s)		8.8	8.8		10.1		51.6	43.5		48.6	42.0	
Actuated g/C Ratio		0.10	0.10		0.11		0.57	0.48		0.54	0.47	
Clearance Time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		176	154		190		460	884		278	1637	
v/s Ratio Prot		c0.03	0.01		c0.11		0.02	c0.40		c0.03	0.19	
v/s Ratio Perm							0.13			0.18		
v/c Ratio		0.35	0.07		0.95		0.27	0.82		0.39	0.41	
Uniform Delay, d1		37.9	36.9		39.7		9.1	20.0		13.8	15.8	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.2	0.2		49.8		0.3	8.6		0.9	0.8	
Delay (s)		39.2	37.1		89.5		9.4	28.6		14.7	16.6	
Level of Service		D	D		F		A	C		B	B	
Approach Delay (s/veh)		37.8			89.5			25.8			16.3	
Approach LOS		D			F			C			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

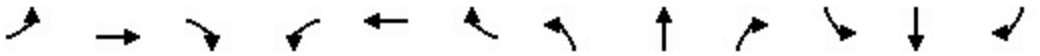
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	13	117	35	11	39	109	651	42	71	561	35
Future Volume (vph)	44	13	117	35	11	39	109	651	42	71	561	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	0.95	
Frt		1.00	0.85		0.94		1.00	0.99		1.00	0.99	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1794	1583		1713		1770	1846		1770	3508	
Flt Permitted		0.96	1.00		0.98		0.34	1.00		0.16	1.00	
Satd. Flow (perm)		1794	1583		1713		632	1846		306	3508	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	50	15	133	40	13	44	124	740	48	81	638	40
RTOR Reduction (vph)	0	0	120	0	34	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	65	13	0	63	0	124	788	0	81	674	0
Turn Type	Split	NA	Prot	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	7	7	4	4		5	2		1	6	
Permitted Phases							2			6		
Actuated Green, G (s)		8.9	8.9		7.1		55.0	47.0		51.0	45.0	
Effective Green, g (s)		8.9	8.9		7.1		55.0	47.0		51.0	45.0	
Actuated g/C Ratio		0.10	0.10		0.08		0.61	0.52		0.57	0.50	
Clearance Time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		177	156		135		487	964		271	1754	
v/s Ratio Prot		c0.04	0.01		c0.04		c0.02	c0.43		0.02	0.19	
v/s Ratio Perm							0.13			0.15		
v/c Ratio		0.37	0.08		0.47		0.25	0.82		0.30	0.38	
Uniform Delay, d1		37.9	36.8		39.6		7.6	17.9		12.8	13.9	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3	0.2		2.5		0.3	7.6		0.6	0.6	
Delay (s)		39.2	37.1		42.2		7.9	25.6		13.4	14.6	
Level of Service		D	D		D		A	C		B	B	
Approach Delay (s/veh)		37.8			42.2			23.2			14.4	
Approach LOS		D			D			C			B	

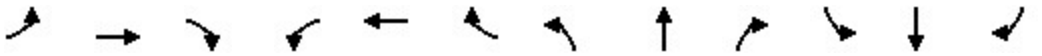
Intersection Summary			
HCM 2000 Control Delay (s/veh)	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



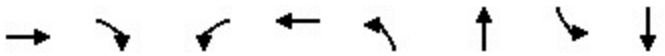
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	28	119	47	10	65	127	531	66	102	530	21
Future Volume (vph)	34	28	119	47	10	65	127	531	66	102	530	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	0.95	
Frt		1.00	0.85		0.93		1.00	0.98		1.00	0.99	
Flt Protected		0.97	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1831	1599		1712		1787	1850		1787	3554	
Flt Permitted		0.97	1.00		0.98		0.41	1.00		0.28	1.00	
Satd. Flow (perm)		1831	1599		1712		762	1850		529	3554	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	35	29	124	49	10	68	132	553	69	106	552	22
RTOR Reduction (vph)	0	0	113	0	42	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	64	11	0	85	0	132	622	0	106	572	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	Prot	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	7	7	4	4		5	2		1	6	
Permitted Phases							2			6		
Actuated Green, G (s)		9.2	9.2		9.6		60.8	52.5		59.6	51.9	
Effective Green, g (s)		9.2	9.2		9.6		60.8	52.5		59.6	51.9	
Actuated g/C Ratio		0.09	0.09		0.10		0.61	0.53		0.60	0.52	
Clearance Time (s)		5.3	5.3		4.9		4.2	6.6		4.2	6.6	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		168	147		164		548	971		412	1844	
v/s Ratio Prot		c0.03	0.01		c0.05		c0.02	c0.34		0.02	0.16	
v/s Ratio Perm							0.13			0.13		
v/c Ratio		0.38	0.08		0.52		0.24	0.64		0.26	0.31	
Uniform Delay, d1		42.7	41.5		43.0		8.4	17.0		10.5	13.8	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4	0.2		2.7		0.2	3.2		0.3	0.4	
Delay (s)		44.2	41.7		45.7		8.6	20.2		10.8	14.2	
Level of Service		D	D		D		A	C		B	B	
Approach Delay (s/veh)		42.6			45.7			18.2			13.7	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	3	39	20	8	36	46	451	35	103	515	13
Future Volume (vph)	18	3	39	20	8	36	46	451	35	103	515	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.9	4.9		4.2	6.6		4.2	6.6	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.95	
Frt		1.00	0.85	1.00	0.88		1.00	0.99		1.00	1.00	
Flt Protected		0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1752	1553	1736	1601		1736	1807		1736	3458	
Flt Permitted		0.96	1.00	0.95	1.00		0.39	1.00		0.25	1.00	
Satd. Flow (perm)		1752	1553	1736	1601		714	1807		452	3458	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	23	4	51	26	10	47	60	586	45	134	669	17
RTOR Reduction (vph)	0	0	48	0	44	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	27	3	26	13	0	60	631	0	134	684	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Prot	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	7	7	4	4		5	2		1	6	
Permitted Phases							2			6		
Actuated Green, G (s)		4.5	4.5	4.1	4.1		38.2	33.9		42.6	36.1	
Effective Green, g (s)		4.5	4.5	4.1	4.1		38.2	33.9		42.6	36.1	
Actuated g/C Ratio		0.06	0.06	0.06	0.06		0.55	0.48		0.61	0.52	
Clearance Time (s)		5.3	5.3	4.9	4.9		4.2	6.6		4.2	6.6	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		112	99	101	93		452	875		394	1783	
v/s Ratio Prot		c0.02	0.00	c0.01	0.01		0.01	c0.35		c0.03	0.20	
v/s Ratio Perm							0.06			0.18		
v/c Ratio		0.24	0.03	0.26	0.14		0.13	0.72		0.34	0.38	
Uniform Delay, d1		31.1	30.7	31.5	31.3		7.5	14.3		7.8	10.2	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.1	0.1	1.4	0.7		0.1	5.1		0.5	0.6	
Delay (s)		32.2	30.8	32.8	31.9		7.6	19.4		8.3	10.9	
Level of Service		C	C	C	C		A	B		A	B	
Approach Delay (s/veh)		31.3			32.2			18.4			10.4	
Approach LOS		C			C			B			B	

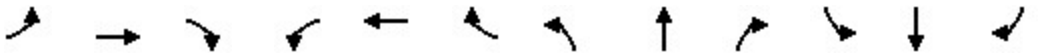
Intersection Summary			
HCM 2000 Control Delay (s/veh)	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	51	26	57	60	631	134	686
v/c Ratio	0.15	0.15	0.16	0.30	0.11	0.61	0.29	0.31
Control Delay (s/veh)	30.3	0.9	31.5	16.7	6.5	22.2	7.3	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.3	0.9	31.5	16.7	6.5	22.2	7.3	12.2
Queue Length 50th (ft)	11	0	11	4	10	252	23	111
Queue Length 95th (ft)	28	0	28	28	21	#390	41	141
Internal Link Dist (ft)	506			798		617		275
Turn Bay Length (ft)		360	100		315		55	
Base Capacity (vph)	267	405	176	204	598	1035	475	2198
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	0.10	0.13	0.15	0.28	0.10	0.61	0.28	0.31

Intersection Summary

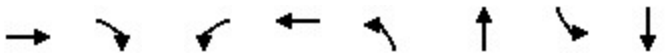
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	23	112	81	18	118	119	614	79	103	603	36
Future Volume (vph)	36	23	112	81	18	118	119	614	79	103	603	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.9	4.9		4.2	6.6		4.2	6.6	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.95	
Frt		1.00	0.85	1.00	0.87		1.00	0.98		1.00	0.99	
Flt Protected		0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1807	1583	1770	1620		1770	1831		1770	3509	
Flt Permitted		0.97	1.00	0.95	1.00		0.34	1.00		0.19	1.00	
Satd. Flow (perm)		1807	1583	1770	1620		633	1831		345	3509	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	38	24	118	85	19	124	125	646	83	108	635	38
RTOR Reduction (vph)	0	0	106	0	112	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	62	12	85	31	0	125	729	0	108	669	0
Turn Type	Split	NA	Prot	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	7	7	4	4		5	2		1	6	
Permitted Phases							2			6		
Actuated Green, G (s)		8.8	8.8	8.8	8.8		52.9	44.8		49.9	43.3	
Effective Green, g (s)		8.8	8.8	8.8	8.8		52.9	44.8		49.9	43.3	
Actuated g/C Ratio		0.10	0.10	0.10	0.10		0.59	0.50		0.55	0.48	
Clearance Time (s)		5.3	5.3	4.9	4.9		4.2	6.6		4.2	6.6	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		176	154	173	158		474	911		295	1688	
v/s Ratio Prot		c0.03	0.01	c0.05	0.02		0.02	c0.40		c0.03	0.19	
v/s Ratio Perm							0.13			0.18		
v/c Ratio		0.35	0.07	0.49	0.20		0.26	0.80		0.37	0.40	
Uniform Delay, d1		37.9	36.9	38.5	37.3		8.5	18.9		12.9	15.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.2	0.2	2.2	0.6		0.3	7.3		0.8	0.7	
Delay (s)		39.2	37.1	40.7	38.0		8.8	26.2		13.6	15.7	
Level of Service		D	D	D	D		A	C		B	B	
Approach Delay (s/veh)		37.8			39.0			23.6			15.4	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

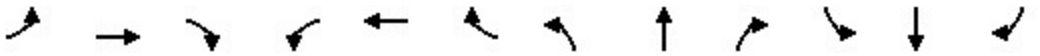
c Critical Lane Group



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	118	85	143	125	729	108	673
v/c Ratio	0.35	0.40	0.49	0.53	0.26	0.78	0.33	0.40
Control Delay (s/veh)	43.0	7.2	48.2	17.6	8.3	28.5	9.7	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	43.0	7.2	48.2	17.6	8.3	28.5	9.7	16.5
Queue Length 50th (ft)	34	0	47	10	25	347	21	124
Queue Length 95th (ft)	72	29	94	65	53	#647	46	194
Internal Link Dist (ft)	506			798		617		275
Turn Bay Length (ft)		360	100		315		55	
Base Capacity (vph)	335	419	198	291	506	929	354	1697
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	0.19	0.28	0.43	0.49	0.25	0.78	0.31	0.40

Intersection Summary

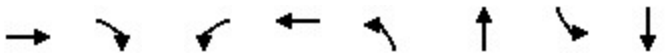
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	13	117	35	11	39	109	651	42	71	561	35
Future Volume (vph)	44	13	117	35	11	39	109	651	42	71	561	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.9	4.9		4.2	6.6		4.2	6.6	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.95	
Frt		1.00	0.85	1.00	0.88		1.00	0.99		1.00	0.99	
Flt Protected		0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1794	1583	1770	1647		1770	1846		1770	3508	
Flt Permitted		0.96	1.00	0.95	1.00		0.34	1.00		0.17	1.00	
Satd. Flow (perm)		1794	1583	1770	1647		637	1846		322	3508	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	50	15	133	40	13	44	124	740	48	81	638	40
RTOR Reduction (vph)	0	0	120	0	41	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	65	13	40	16	0	124	788	0	81	674	0
Turn Type	Split	NA	Prot	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	7	7	4	4		5	2		1	6	
Permitted Phases							2			6		
Actuated Green, G (s)		8.9	8.9	6.4	6.4		55.7	47.8		51.7	45.8	
Effective Green, g (s)		8.9	8.9	6.4	6.4		55.7	47.8		51.7	45.8	
Actuated g/C Ratio		0.10	0.10	0.07	0.07		0.62	0.53		0.57	0.51	
Clearance Time (s)		5.3	5.3	4.9	4.9		4.2	6.6		4.2	6.6	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		177	156	125	117		493	980		279	1785	
v/s Ratio Prot		c0.04	0.01	c0.02	0.01		c0.02	c0.43		0.02	0.19	
v/s Ratio Perm							0.13			0.15		
v/c Ratio		0.37	0.08	0.32	0.14		0.25	0.80		0.29	0.38	
Uniform Delay, d1		37.9	36.8	39.7	39.2		7.3	17.3		12.2	13.4	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3	0.2	1.5	0.5		0.3	7.0		0.6	0.6	
Delay (s)		39.2	37.1	41.2	39.8		7.6	24.3		12.8	14.0	
Level of Service		D	D	D	D		A	C		B	B	
Approach Delay (s/veh)		37.8			40.4			22.0			13.9	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

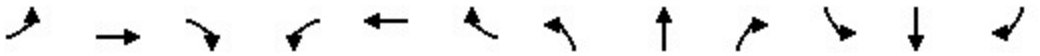
c Critical Lane Group



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	65	133	40	57	124	788	81	678
v/c Ratio	0.37	0.45	0.27	0.32	0.24	0.78	0.26	0.37
Control Delay (s/veh)	43.2	9.8	42.6	21.0	7.6	26.5	8.7	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	43.2	9.8	42.6	21.0	7.6	26.5	8.7	15.1
Queue Length 50th (ft)	36	0	22	7	23	368	15	118
Queue Length 95th (ft)	72	37	51	42	51	#675	36	189
Internal Link Dist (ft)	506			798		617		275
Turn Bay Length (ft)		360	100		315		55	
Base Capacity (vph)	332	419	198	223	534	1015	349	1824
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	0.20	0.32	0.20	0.26	0.23	0.78	0.23	0.37

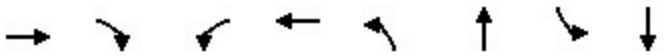
Intersection Summary

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 (vph)	34	28	119	47	10	65	127	531	66	102	530	21
Future Volume (vph)	34	28	119	47	10	65	127	531	66	102	530	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.9	4.9		4.2	6.6		4.2	6.6	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.95	
Frt		1.00	0.85	1.00	0.87		1.00	0.98		1.00	0.99	
Flt Protected		0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1831	1599	1787	1635		1787	1850		1787	3554	
Flt Permitted		0.97	1.00	0.95	1.00		0.41	1.00		0.30	1.00	
Satd. Flow (perm)		1831	1599	1787	1635		775	1850		561	3554	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	35	29	124	49	10	68	132	553	69	106	552	22
RTOR Reduction (vph)	0	0	113	0	63	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	64	11	49	15	0	132	622	0	106	572	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	Prot	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	7	7	4	4		5	2		1	6	
Permitted Phases							2			6		
Actuated Green, G (s)		9.2	9.2	7.1	7.1		63.2	55.1		62.2	54.6	
Effective Green, g (s)		9.2	9.2	7.1	7.1		63.2	55.1		62.2	54.6	
Actuated g/C Ratio		0.09	0.09	0.07	0.07		0.63	0.55		0.62	0.55	
Clearance Time (s)		5.3	5.3	4.9	4.9		4.2	6.6		4.2	6.6	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		168	147	126	116		571	1019		442	1940	
v/s Ratio Prot		c0.03	0.01	c0.03	0.01		c0.02	c0.34		0.02	0.16	
v/s Ratio Perm							0.13			0.13		
v/c Ratio		0.38	0.08	0.39	0.13		0.23	0.61		0.24	0.29	
Uniform Delay, d1		42.7	41.5	44.4	43.5		7.4	15.2		9.2	12.3	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4	0.2	2.0	0.5		0.2	2.7		0.3	0.4	
Delay (s)		44.2	41.7	46.4	44.0		7.6	17.9		9.5	12.7	
Level of Service		D	D	D	D		A	B		A	B	
Approach Delay (s/veh)		42.6			44.9			16.1			12.2	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	124	49	78	132	622	106	574
v/c Ratio	0.38	0.46	0.34	0.40	0.22	0.60	0.23	0.29
Control Delay (s/veh)	48.8	11.4	48.9	19.5	7.0	19.7	7.4	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	48.8	11.4	48.9	19.5	7.0	19.7	7.4	13.7
Queue Length 50th (ft)	40	0	30	6	25	259	20	100
Queue Length 95th (ft)	80	43	65	50	56	455	46	164
Internal Link Dist (ft)	506			798		617		275
Turn Bay Length (ft)		360	100		315		55	
Base Capacity (vph)	342	412	216	257	632	1038	500	1978
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	0.19	0.30	0.23	0.30	0.21	0.60	0.21	0.29

Intersection Summary