

Transportation Adequacy Form

Instructions: Applicants must submit a *Transportation Adequacy Form* as a Word document to Montgomery Planning staff for review and approval prior to filing a development application for any project that requires an Adequate Public Facilities (APF) finding. Email the completed form to transportation.review@montgomeryplanning.org.

The *Transportation Adequacy Form* must be approved by agencies applicable to the project context, including Montgomery Planning, the Montgomery County Department of Transportation (MCDOT), and the State Highway Administration (SHA), and/or the Local Jurisdiction, prior to initiating an LATR Study or submitting a development application. It is the responsibility of the Applicant to obtain approval, which is demonstrated via the signature of the relevant agency representatives.

Upon receipt of a completed *Transportation Adequacy Form*, Planning will provide feedback within 15 business days. Large and/or complex projects may require additional time and/or may warrant a meeting.

Transportation Adequacy Form Approval For Staff Use Only

Montgomery Planning Name: <input type="text"/>	State Highway Administration (if applicable) Name: <input type="text"/>
<input checked="" type="checkbox"/> <i>Carlos Pazmino</i> <hr style="width: 100%;"/> Montgomery Planning Signed: 6/18/2025	<input checked="" type="checkbox"/> <hr style="width: 100%;"/> State Highway Administration
Montgomery County Department of Transportation (if an LATR Study is required) Name: <input type="text"/>	Local Jurisdiction (if applicable) Click and type. Name: <input type="text"/>
<input checked="" type="checkbox"/> <hr style="width: 100%;"/> MCDOT	<input checked="" type="checkbox"/> <hr style="width: 100%;"/> Local Jurisdiction

Applicant Information (Required for All)

Project Name	FAES Social & Academic Center		
Applicant / Developer Name	Foundation for Advanced Education in the Sciences (FAES)	Project Location (include address if known)	9101 Old Georgetown Road
Transportation Consultant and Contact Information	Lenhart Traffic Consulting OFFICE: (410) 216-3333 EMAIL: ndriban@lenharttraffic.com	Date Form Submitted to Planning Staff	6/18/2025

Part A: Project Information (Required for All)

<p>Transportation Policy Area(s) List Name and Color See GIP Area Map</p>	<p>Bethesda/Chevy Chase - Orange</p>	<p>Master Plan or Sector Plan Area(s) See MCATLAS</p> <p>Complete Street Area Type See MCATLAS</p>	<p>Bethesda Chevy Chase</p> <p>Suburban</p>
<p>Application Type(s) <i>Check all apply</i></p>	<p><input type="checkbox"/> Preliminary Plan <input checked="" type="checkbox"/> Conditional Use <input type="checkbox"/> Amendment <input type="checkbox"/> Site Plan <input type="checkbox"/> APF at Building Permit <input type="checkbox"/> Mixed Income Housing Community (MIHC) Plan <input type="checkbox"/> Sketch/Concept/ Pre-Preliminary <input type="checkbox"/> Local Map Amendment <input type="checkbox"/> Other:</p>		
<p>Project Description Outline the project's key details, including a description of the planned development program. This should cover land use, unit count, square footage, project phasing, and applicable zoning/subdivision regulations.</p>	<p>The existing property includes a Social and Academic Center (Private Club/Clubhouse use) for the Foundation for the Advanced Education in the Sciences (FAES). The applicant is proposing to redevelop the site to include 9 townhouses and 9 multifamily units. The existing Clubhouse is proposed to be reconstructed and slightly expanded in size as part of the proposed development, however the manner and intensity of the use of this building, which includes a small amount of administrative/office space, are not proposed to change. (Please see attached Traffic Statement for additional information)</p>		
<p>Existing Use & Prior Approval Outline the current uses of the site, including land use categories, unit count or square footage, site activities, construction year, and any other pertinent details. Note any prior approvals or proposals.</p>	<p>The existing use is a 3,279 square foot Private Club, which includes a small amount of administrative/office space (~550 sf) used by up to four FAES staff. The entirety of the use, including the existing administrative/office functions, has been actively occupied for at least 12 years</p>		
<p>Site Access Describe proposed site access points for all modes. Show curb cut locations (proposed and existing), access controls (e.g., right-in/out, signalized), connections between parcels, internal movement, private roads, parking/loading areas, and other site access details. Include maps or graphics as an attachment.</p>	<p>The existing site is accessed via a right-in/right-out along Old Georgetown Road and a full access movement via W Cedar Lane. The proposed access is via the full-movement driveway along Cedar Lane, only. A Concept Site Plan is included as part of the attached Traffic Statement.</p> <p><input checked="" type="checkbox"/> Map(s) or graphic(s) attached</p>		

Part B: Transportation Adequacy Screening (Required for All)

Trip Generation Estimates

Provide site-generated trip estimates, using the most recent version of the ITE *Trip Generation Manual* or another agreed upon methodology such as manual driveway counts at similar facilities. Estimates must be provided by land use and development phase during weekday AM and PM peaks, and include daily totals.

Include trip generation for existing site, current approvals, proposed uses, and net changes. Show calculations and clearly cite sources and methodology including use of ITE average trip rates, ITE land use code(s), and version of ITE TripGen. Include and identify policy area adjustment factors and trip reductions.

Include detailed calculations as an attachment.

See Section 2.B1 of the LATR Guidelines for trip generation instructions and guidance on policy area adjustment factors, acceptable trip reductions, and other methodologies.

LATR Study Determination

Check all that apply.

See Section 2.B2 of the LATR Guidelines for more information.

- Trip generation estimates **are not required** for a proposed development with five or fewer single-family dwellings and no other uses. Check box if applicable and select LATR Study Exempt under LATR Study Determination.

Totals Summary:

	AM Peak-Hour Weekday	PM Peak-Hour Weekday	Daily (Weekday)
Proposed Motor Vehicle Trips	7	9	110
Existing Motor Vehicle Trips (credit)	0	0	0
Net New Motor Vehicle Trips	7	9	110

- Trip Generation description, detailed calculation, and tables attached

Maximum Net New Peak-Hour Motor Vehicle Trips 9
(the greater of the AM and PM peak-hour trips)

LATR Study Exempt

Go to Part C: LATR Study Exempt

Note: If fewer than 30 maximum net new peak-hour weekday motor vehicle trips are determined, the project is exempt from the LATR Study. Other exemptions are listed in Part C: LATR Study Exempt and in the LATR Guidelines.

LATR Study Required

Go to Part D: LATR Study Data Collection

Vision Zero Statement

Required with LATR Study.

Non-Motor Vehicle Analysis

Required with LATR Study.

Motor Vehicle Analysis

Required with LATR Study, except for Red Policy Areas and Downtowns, which are exempt. Go to Part D, then Part E.

Part C: LATR Study Exempt

Only to be completed for projects that are LATR Study Exempt.

LATR Study Exemption Statement

Select the reason(s) for the exemption and provide a brief statement that justifies the exemption.

The statement can be attached if more room is needed.

See Section 2.C of the LATR Guidelines for more information.

Reason(s) for exemption:

Check all that apply.

- Fewer than 30 maximum net new peak-hour weekday motor vehicle trips.
- Daycare use with fewer than 50 maximum net new peak-hour weekday motor vehicle trips.
- Bioscience use.
- Mixed Income Housing Community (MIHC) Plan or equivalent.
- North Bethesda (formerly White Flint) Metro Station Policy Area.
- White Oak Local Area Transportation Improvements Program (LATIP) Area.
- Potomac Policy Area, project not impacting select intersections.

Statement:

See attached traffic statement.

- Statement attached (as needed)

End of Part C. If LATR Study Exempt, go to Acknowledgements (on last page).

Part D: LATR Study Required—Vision Zero and Non-Motor Vehicle Analysis

Only to be completed by Applicants of projects that require an LATR Study. The purpose of this section is to determine the parameters of LATR Study and the extent of data collection and analysis. The completed LATR Study must comply with all requirements in the *LATR Guidelines*, including those not listed on this form.

Vision Zero Statement

Speed Study Locations

All LATR studies must develop a Vision Zero Statement. The Applicant must conduct speed studies, report findings, and suggest safety countermeasures.

Indicate locations for speed studies. The maximum number of required speed studies is based on the maximum net new weekday peak-hour motor vehicle trips.

Include map(s) depicting the speed study locations as an attachment.

See *Section 3.A1, Table 1 of the LATR Guidelines for speed study requirements.*

Locations for Speed Studies:

1. Click or tap here to enter text.
2. Click or tap here to enter text.
3. Click or tap here to enter text.
4. Click or tap here to enter text.

Map(s) attached

Non-Motor Vehicle Analysis

Study Area Extent

All LATR studies must analyze non-motor vehicle adequacy.

Select the appropriate study area network distance based on the maximum net new weekday peak-hour motor vehicle trips. Include maps that show the site, the network-distance study area, and a buffer from the property boundary equal to the listed network distance.

See *Section 3.B1, Table 2 and Figure 3 of the LATR Guidelines for study area and analysis requirements.*

Study Area Network Distance for Analysis:

- Pedestrian Level of Comfort: Select distance.
 Illuminance: Select distance.
 ADA Compliance: Select distance.
 Bicycle: Select distance.
 Bus Transit: Select distance.

Study area map(s) attached

Programmed Transportation Projects

Background Conditions

List all programmed roadway, transit, bicycle, and pedestrian projects within a ¼-mile buffer of the property boundary. Programmed projects include those fully funded for construction in the County or State budget in the next 6 years and conditioned developer projects.

See [Transportation Commitments Map](#) for info.

**End of Part D. If Motor Vehicle Analysis is required, go to Part E.
For projects in Red Policy Areas and Downtowns, go to Part F.**

Part E: LATR Study Required—Motor Vehicle Analysis

Only to be completed by Applicants of projects that require an LATR Study with Motor Vehicle Analysis. LATR Studies must include an assessment of Motor Vehicle Adequacy, except for developments in Red Policy Areas and Downtowns, which are exempt from this requirement. The purpose of this section is to determine parameters of LATR Study, including the extent of data collection and analysis. The completed LATR Study must comply with all requirements in the *LATR Guidelines*, including those not listed on this form.

Study Scenarios

Propose an appropriate set of scenarios to analyze. Other scenarios may be requested by reviewing agencies. Note the anticipated build-out year and project phasing.

See 3.C1 of the *LATR Guidelines* for requirements.

Scenarios: Existing Background (No Build) Total Future Future with Mitigation (as needed)

Existing Year: Click or tap here to enter text.

Phases / Build-out Year(s): Click or tap here to enter text.

Study Periods: AM PM Mid-day Saturday Sunday Other: Click to enter text.

Additional Scenarios: Click and type to enter text.

<p>Software Requirement</p> <p>Select software type and describe methodology and analysis for specific intersections.</p> <p>See 3.C1 of the LATR Guidelines for requirements.</p>	<p>Software Type(s): <input type="checkbox"/> Synchro <input type="checkbox"/> VISSIM <input type="checkbox"/> CORSIM <input type="checkbox"/> SIDRA <input type="checkbox"/> SimTraffic <input type="checkbox"/> CLV <input type="checkbox"/> Other Click to enter text.</p> <p>Provide methodology (analysis and software) for specific intersections:</p>
<p>Study Intersections</p> <p>Identify study intersections. Applicants must study a minimum number of significant signalized and non-signalized intersections. The number of required intersection tiers is based on weekday peak-hour motor vehicle trips.</p> <p>See 3.C2 of the LATR Guidelines for requirements.</p>	<p>1. _____</p> <p>2. _____</p> <p>3. _____</p> <p>4. _____</p> <p>5. _____</p> <p>6. _____</p> <p>7. _____</p> <p>8. _____</p> <p>9. _____</p> <p>10. _____</p> <p>11. _____</p> <p>12. _____</p> <p>13. _____</p> <p>14. _____</p>
<p>Multimodal Intersection Counts</p> <p>Counts must be collected no more than 12 months prior to the acceptance of the LATR Study.</p> <p>Indicate if counts will be new or existing, and list locations and dates of any existing counts.</p> <p>See 3.C2 of the LATR Guidelines for requirements.</p> <p>See Montgomery Planning's Intersection Analysis Database</p>	<p>Intersection count collection: <i>Check all that apply.</i></p> <p><input type="checkbox"/> New intersection counts (not yet collected)</p> <p><input type="checkbox"/> Existing intersection counts (must be collected no more 12 months before LATR Study acceptance date)</p> <p>If using any existing counts, list location(s) and date(s) of counts:</p>

<p>Trip Distribution</p> <p>Determine trip distribution percentages using Appendix 2 of the LATR Guidelines. Provide sources and justification for any proposed changes to listed distributions.</p> <p>Include a map and a list or table as an attachment.</p> <p><i>See Appendix 2 of the LATR Guidelines for detailed guidance and trip distribution percentages.</i></p>	<p><input type="checkbox"/> Trip Distribution graphic(s) attached</p>
<p>Pipeline Developments <i>Background Conditions</i></p> <p>List all approved but unbuilt developments or concurrently pending applications in the vicinity of the study area. Include project name, plan number, land uses, and densities.</p> <p><i>See Montgomery Planning's Development Pipeline webpage for info.</i></p>	
<p>Additional Analysis</p> <p>Indicate any anticipated site-specific analysis, including analysis type, location, and software type.</p> <p>Additional analysis may be requested after LATR Study submittal.</p> <p><i>See 3.C2 of the LATR Guidelines for information.</i></p>	<p><input type="checkbox"/> Queuing Analysis <input type="checkbox"/> Signal Warrant Analysis <input type="checkbox"/> Weaving/Merge Analysis <input type="checkbox"/> Crash Analysis</p> <p>Location(s) and software requirement(s) for each analysis. Provide explanations as needed:</p>
<p>End of Part E. Go to Part F: Mitigation.</p>	

Part F: Mitigation

Only to be completed by Applicants of projects with an LATR Study Required. The purpose of this section is to highlight Montgomery Planning’s approach to mitigation and to identify the Proportionality Guide amount, which represents a guiding upper limit for the cost of mitigation. Any mitigation strategies discussed at this stage and included in the *Transportation Adequacy Form* are considered non-binding until formally evaluated in the LATR Study and committed to as a condition of a development approval.

Proportionality Guide Amount

Calculate the estimated Proportionality Guide Amount. This is for informational purposes only and is subject to change.

See 4.A of the *LATR Guidelines for instructions*.

To calculate the estimated Proportionality Guide Amount, multiply the Net New Daily Motor Vehicle Trips (found in Part B) by the Proportionality Guide Rate. The Guide Rate is \$765, as of January 1, 2025.

Proportionality Guide Amount: [Click to enter text.](#)

Cost Estimation Tool Version Expected to be Used for Mitigation Cost Estimates: [Click to enter text.](#)

Potential Mitigation Strategies

(Optional)

Describe any potential mitigations that are under consideration or master-planned within the study boundary. This is for informational purposes only and subject to change. The completed LATR Study must detail all proposed mitigations.

See 4.B of the *LATR Guidelines for mitigation priorities*.

End of Part F. Go to Acknowledgements.

Acknowledgements and Topics for Discussion

For All Applicants

- The Applicant must comply with all other requirements of the *LATR Guidelines* not listed on this form.
- **Before submitting a development application or initiating an LATR Study**, projects requiring an APF finding must have this form approved by Montgomery Planning and other agencies applicable to the project context.
- **If the development proposal significantly changes** after this form has been approved, the Applicant must amend the form and receive a new approval.

For LATR Study Required projects

- **To make changes to the trip generation and/or trip distribution methodology** between the approval of this form and the LATR Study submittal, the Applicant must amend this form and receive Planning staff concurrence.
- **If physical improvements are proposed as mitigation**, the LATR Study must demonstrate feasibility with regards to right-of-way and utility relocation (at a minimum).
- **A receipt from MCDOT** showing payment of the LATR Study review fee must be included with the LATR Study submittal.
- **Traffic model files (Synchro, VISSIM, etc.)** must be sent to MCDOT and SHA, when applicable.
- **Intersection counts and pedestrian and bike data verification data** must be uploaded to Montgomery Planning's database.
- **An electronic copy of the LATR Study** and appendices must be submitted to [ePlans](mailto:transportation.review@montgomeryplanning.org) and sent to Planning staff via transportation.review@montgomeryplanning.org.

The Applicant acknowledges Montgomery Planning's policies listed in this form and described in the *LATR Guidelines*.

Describe any additional assumptions, special circumstances, or other topics for discussion not covered by this form:

Submit the completed form to transportation.review@montgomeryplanning.org

End of form.

Lenhart Traffic Consulting, Inc.

Transportation Planning & Traffic Engineering

Memorandum:

Date: June 18, 2025

TO: Carlos Pazmino
MNCPPC Planning Dept. – Downcounty
2425 Reddie Drive, 14th Floor
Wheaton, MD 20902

FROM: Mike Lenhart

RE: Traffic Statement for FAES – 9101 Old Georgetown Road

The purpose of this memorandum is to provide a Traffic Statement to support the Conditional Use application for the proposed expansion of the Foundation for Advanced Education in the Sciences (FAES) property located at 9101 Old Georgetown Road in Bethesda, Maryland. A site location map is provided on **Exhibit 1a**. As shown on **Exhibit 1b**, the property is in Montgomery County’s Bethesda/Chevy Chase Transportation Policy Area. The applicant is proposing to develop the property with 9 townhomes and 9 multi-family dwelling units. The existing property consists of a Private Club/clubhouse, described in more detail below, which will be reconstructed as part of the proposed development.

It should be noted that the existing FAES clubhouse building serves as an ancillary complement to the NIH office by providing meeting space outside of their secure campus, and includes a small amount of administrative/office space (~550 sf) used by up to 4 FAES staff. Pursuant to a “Private Club” special exception, the building hosts a variety of educational and social events, including seminars, meetings, and networking events for the benefit of its members and their guests. The majority of these events occur during the day from 9 AM to 4 PM, with some events occurring in the evening from 5 PM to 9 PM. There are also occasional special events on weekends, but these are not a regular occurrence. As noted above, the existing clubhouse is used on occasion by up to 4 administrative/office staff from FAES. Although the building is proposed to be reconstructed and slightly expanded in size, from 3,279 sf to 3,500 sf, as part of the proposed development, the manner and intensity of the use of this building are not proposed to change, with respect to trip generation characteristics (including the number of staff and approximate square footage of the portion of the building that is used for administrative/office space). The entirety of the use, including the existing administrative/office functions has been actively occupied for at least 12 years, so all trips associated with this use are considered vested. As such, in accordance with LATR Guidelines, there are 0 net new trips associated with this component of the proposed site.

Montgomery County’s Growth and Infrastructure Policy establishes the “Local Area Transportation Review (LATR)” Guidelines, which are utilized for the Administration of the County’s Adequate Public Facilities Ordinance. These Guidelines establish the extent to which evaluations of traffic operations and safety and/or evaluations of other modes of transportation, such as pedestrians, bicycles, and/or transit are required for a site, based on the specific characteristics of a given site. In cases where a site generates greater than 30 peak hour vehicle trips, an evaluation of adequacy for all modes of transportation is required. In cases where a site generates fewer than 30 peak hour vehicle trips, the site’s impact is assumed to be de minimus and no adequacy evaluation is required for any mode of transportation. This Traffic Statement presents an evaluation of transportation analysis requirements for the subject site based on the LATR Guidelines.

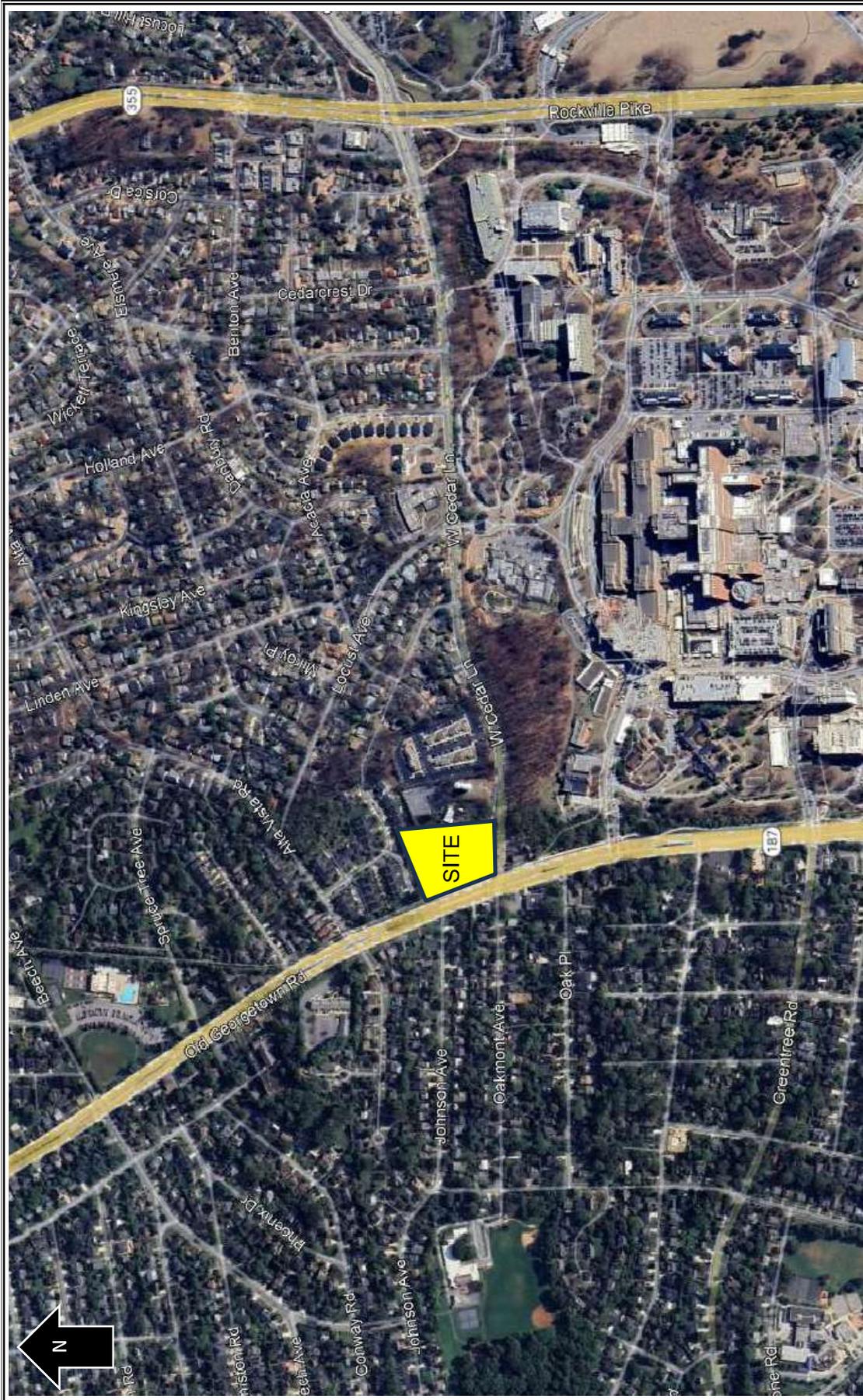
Lenhart Traffic Consulting, Inc.

Transportation Planning & Traffic Engineering

The attached Trip Generation tables shown on **Exhibit 2** contain trip generation totals for the existing and proposed uses based on the ITE Trip Generation Manual, 11th Edition, and adjusted using the appropriate adjustment factors for the Bethesda/Chevy Chase Policy Area. Trip Generation for the proposed residential development was conducted using ITE Land Use Code 215 (Single-Family Attached Housing) and ITE Land Use Code 220 (Multifamily Housing, Low Rise). As noted above, while the existing Private Club building is proposed to be reconstructed and slightly expanded in size as part of the proposed redevelopment, the manner and intensity of the use of this building are not proposed to change, with respect to trip generation characteristics. As the entirety of this use, including the administrative/options functions, has been actively occupied for at least 12 years, all of the trips associated with the use are considered vested; there are 0 net new trips associated with the Private Club building, according to LATR Guidelines. As shown on Exhibit 2, the proposed site plan will result in a net increase of 7 vehicle trips during the morning peak hour and 9 vehicle trips during the evening peak hour. A full transportation study (adequacy test) is not required to satisfy the LATR test because the proposed development generates fewer than 30 vehicle trips during each peak hour.

Based on the information contained in this report:

- The project is located in the Bethesda/Chevy Chase Policy Area.
- The project generates fewer than 30 peak hour vehicle trips and is therefore exempt from requiring a full LATR transportation impact study.

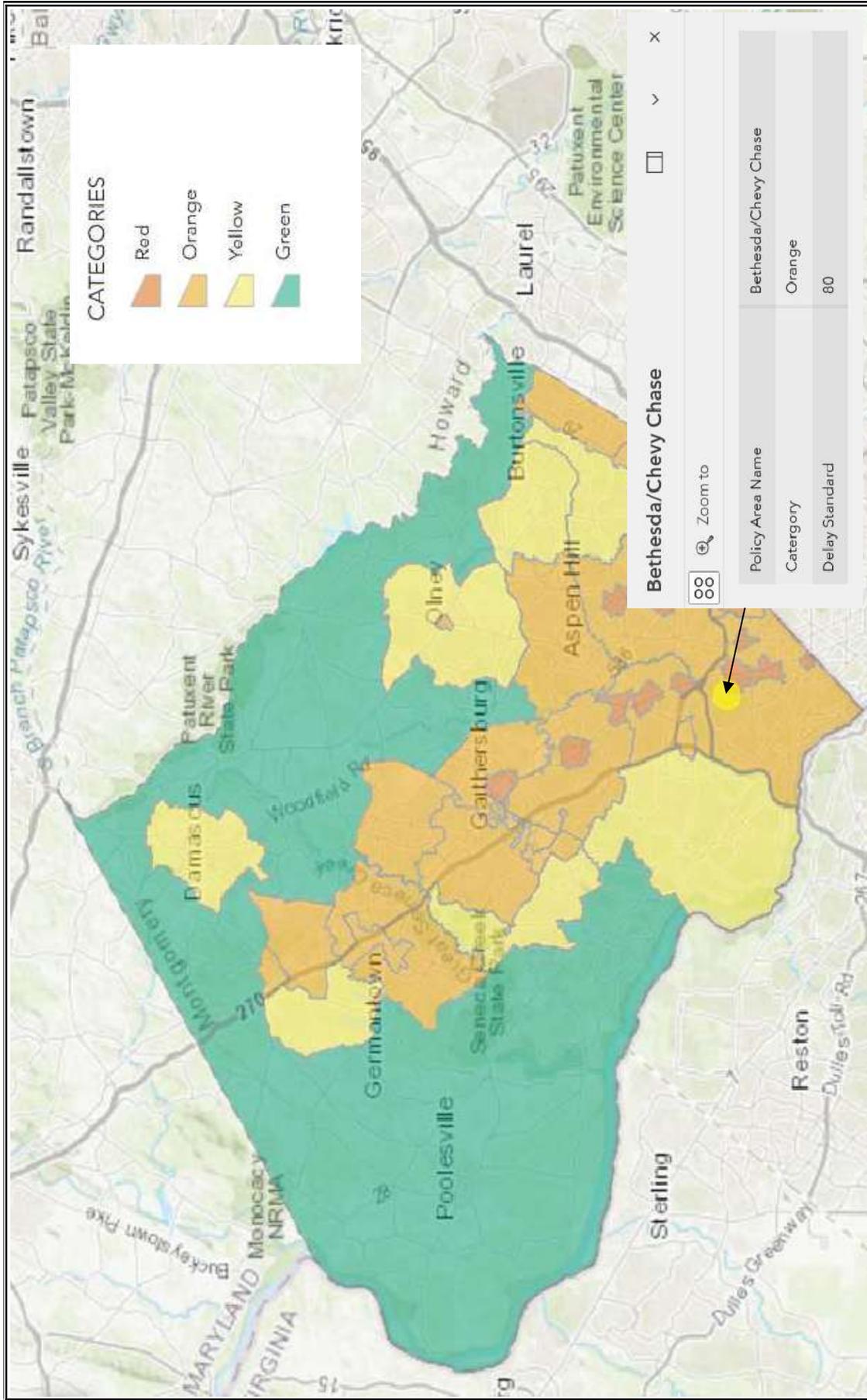


Traffic Impact Analysis


LENHART TRAFFIC CONSULTING, INC.
 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
 SEVERNA PARK, MD 21146
www.lenharttraffic.com

Site Location
Map

Exhibit
1a



<p>Traffic Impact Analysis</p> <p>LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com</p>		<p>Policy Area Map</p>	<p>Exhibit 1b</p>
--	--	----------------------------	------------------------------

Trip Generation Rates

Single-Family Attached Housing (ITE-215, Units)

Morning Trips = 0.48 x Units	31/69
Evening Trips = 0.57 x Units	57/43
Daily Trips = 7.20 x Units	

Multifamily Housing, Low-Rise (ITE-220, Units) [Not Close to Rail Transit]

Morning Trips = 0.40 x Units	24/76
Evening Trips = 0.51 x Units	63/37
Daily Trips = 6.74 x Units	

Trip Distribution (In/Out)

Net New Trips for Existing/Proposed-Reconstructed Clubhouse

	AM Peak			PM Peak			Daily Trips
	In	Out	Total	In	Out	Total	
Private Club/ Clubhouse	0	0	0	0	0	0	0
See Note 1							

Net New Trips for Proposed Residential Use

	AM Peak			PM Peak			Daily Trips
	In	Out	Total	In	Out	Total	
Single-Family Attached Housing (ITE-215, Units)	1	3	4	3	2	5	65
Multifamily Housing, Low-Rise (ITE-220, Units) [Not Close to Rail Transit]	1	3	4	3	2	5	61
Total New Vehicular Trips per ITE Trip Generation Manual, 11th Edition: 2 6 8 6 4 10 126							

LATR Vehicle Trip Generation Rate Adjustment Factor (Bethesda/Chevy Chase - Residential): 87%

Total LATR Adjusted Vehicular Trips per ITE Trip Generation Manual, 11th Edition: 2 5 7 6 3 9 110

Notes:

1. The existing FAES clubhouse building serves as an ancillary complement to the National Institutes of Health (NIH) by providing meeting space outside of their secure campus, and includes a small amount of administrative/office space (~550 sf) used by up to 4 FAES staff. Pursuant to a "Private Club" special exception, the building hosts a variety of educational and social events, including seminars, meetings, and networking events for the benefit of its members and their guests. The majority of these events occur during the day from 9 AM to 4 PM, with some events occurring in the evening from 5 PM to 9 PM. There are also occasional special events on weekends, but these are not a regular occurrence. As noted above, the existing clubhouse is used on occasion by up to 4 administrative/office staff from FAES. Although the building is proposed to be reconstructed and slightly expanded in size as part of the proposed development, the manner and intensity of the use of this building are not proposed to change, with respect to trip generation characteristics (including the number of staff and approximate square footage of the portion of the building that is used for administrative/office space). The entirety of the use, including the existing administrative/office functions has been actively occupied for at least 12 years, so all trips associated with this use are considered vested. As such, in accordance with LATR Guidelines, there are 0 net new trips associated with this component of the proposed site.

2. Trip generation rates were obtained from the ITE Trip Generation Manual, 11th Edition.

Traffic Impact Analysis

LENHART TRAFFIC CONSULTING, INC.
 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
 SEVERNA PARK, MD 21146
 www.lenharttraffic.com

Trip Generation
for Site

**Exhibit
2**

Appendix A

ITE Information
LATR Information



Site Scheme B

9 (9) BR TH
 9 (9) BR FLATS
 (2 per floor)
 18 units
 42 beds
 45 spaces

Land Use: 215

Single-Family Attached Housing

Description

Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space.

Additional Data

The database for this land use includes duplexes (defined as a single structure with two distinct dwelling units, typically joined side-by-side and each with at least one outside entrance) and townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Dakota, Utah, Virginia, and Wisconsin.

Source Numbers

168, 204, 211, 237, 305, 306, 319, 321, 357, 390, 418, 525, 571, 583, 638, 735, 868, 869, 870, 896, 912, 959, 1009, 1046, 1056, 1058, 1077

Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 46

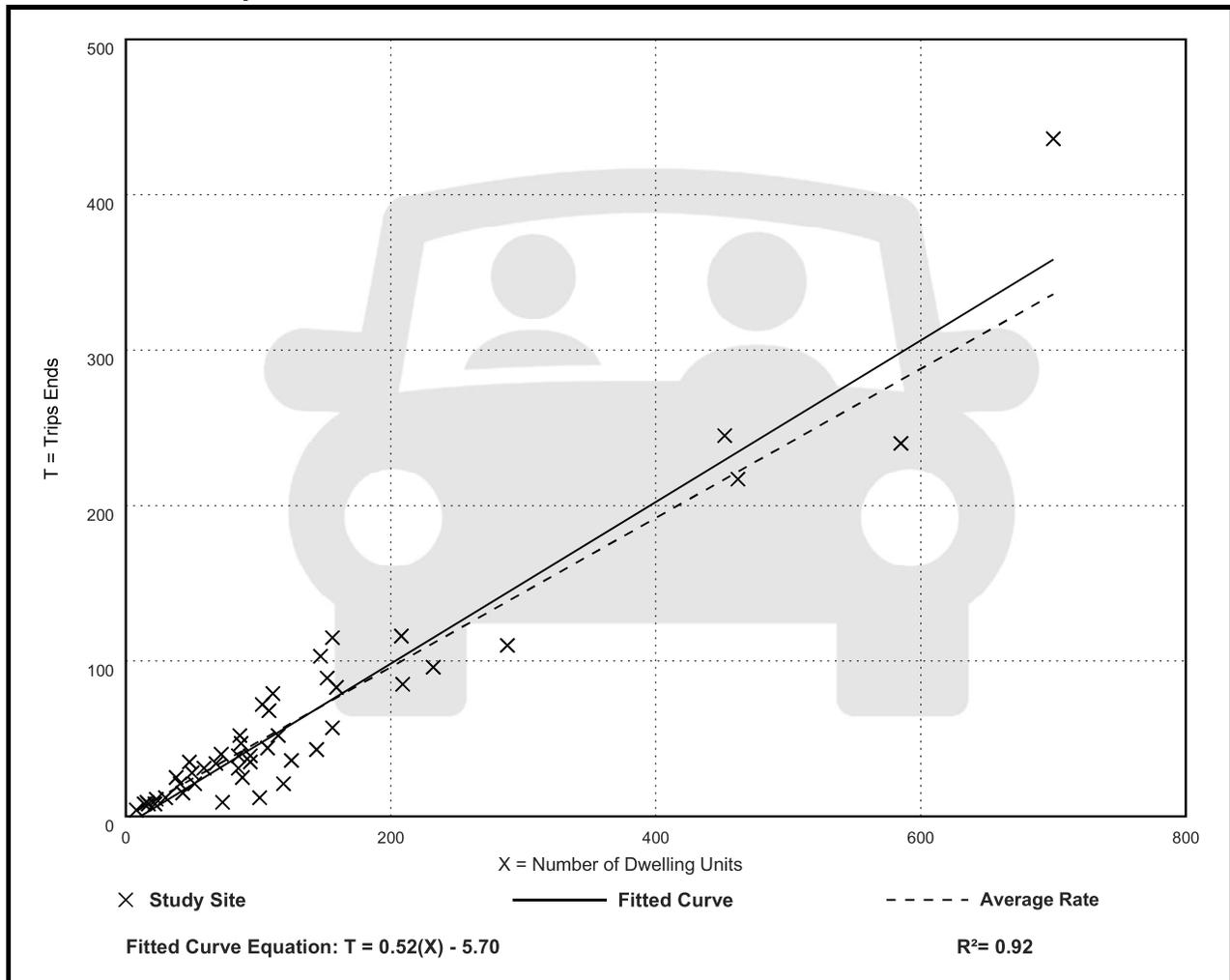
Avg. Num. of Dwelling Units: 135

Directional Distribution: 31% entering, 69% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.48	0.12 - 0.74	0.14

Data Plot and Equation



Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 51

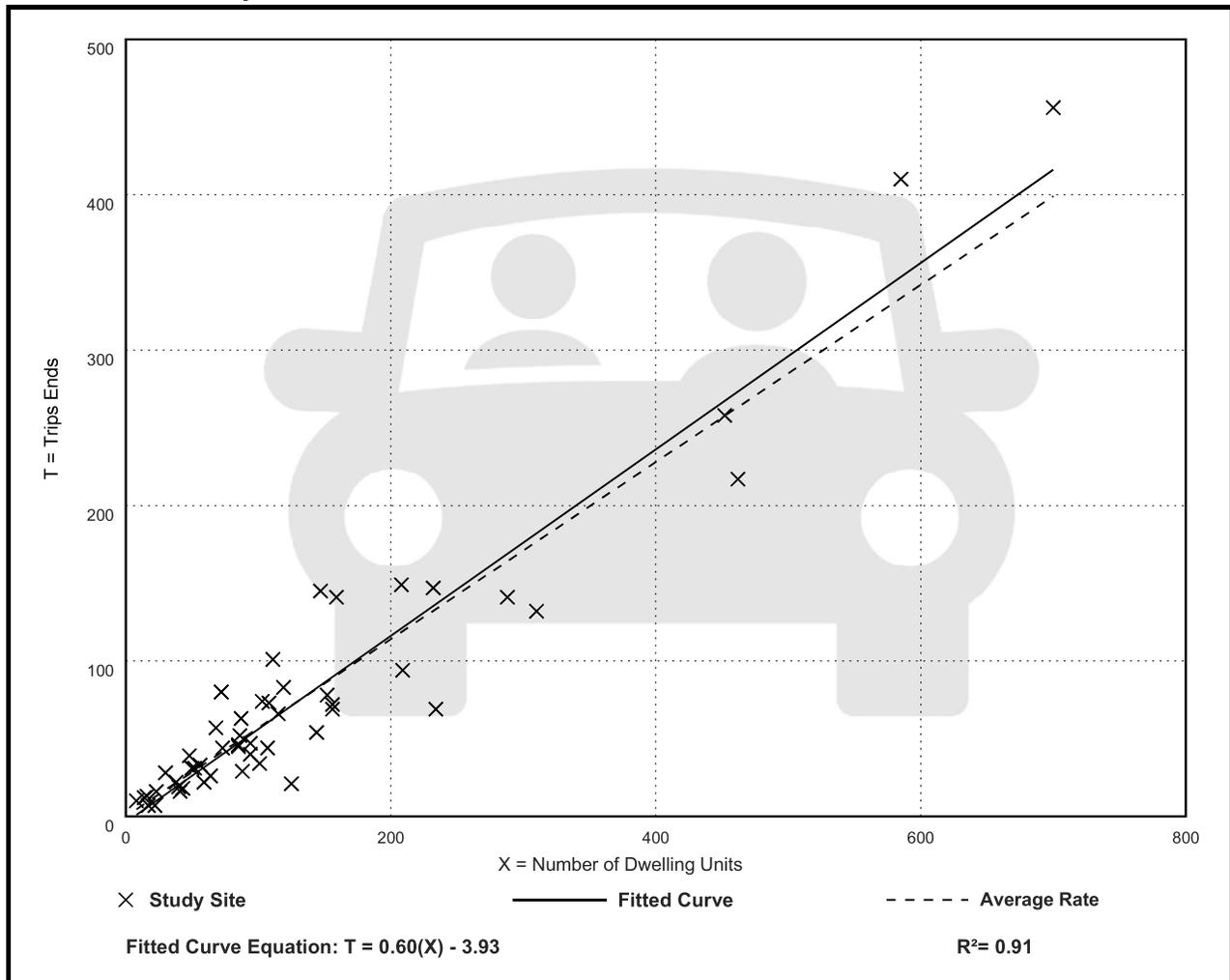
Avg. Num. of Dwelling Units: 136

Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.57	0.17 - 1.25	0.18

Data Plot and Equation



Land Use: 220

Multifamily Housing (Low-Rise)

Description

Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have two or three floors (levels). Various configurations fit this description, including walkup apartment, mansion apartment, and stacked townhouse.

- A walkup apartment typically is two or three floors in height with dwelling units that are accessed by a single or multiple entrances with stairways and hallways.
- A mansion apartment is a single structure that contains several apartments within what appears to be a single-family dwelling unit.
- A fourplex is a single two-story structure with two matching dwelling units on the ground and second floors. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.
- A stacked townhouse is designed to match the external appearance of a townhouse. But, unlike a townhouse dwelling unit that only shares walls with an adjoining unit, the stacked townhouse units share both floors and walls. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.

Multifamily housing (mid-rise) (Land Use 221), multifamily housing (high-rise) (Land Use 222), affordable housing (Land Use 223), and off-campus student apartment (low-rise) (Land Use 225) are related land uses.

Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile or less.

Additional Data

For the three sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.72 residents per occupied dwelling unit.

For the two sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96.2 percent of the total dwelling units were occupied.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip

generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

For the three sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.72 residents per occupied dwelling unit.

It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).

The sites were surveyed in the 1980s, the 1990s, the 2000s, the 2010s, and the 2020s in British Columbia (CAN), California, Delaware, Florida, Georgia, Illinois, Indiana, Maine, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, and Washington.

Source Numbers

188, 204, 237, 300, 305, 306, 320, 321, 357, 390, 412, 525, 530, 579, 583, 638, 864, 866, 896, 901, 903, 904, 936, 939, 944, 946, 947, 948, 963, 964, 966, 967, 1012, 1013, 1014, 1036, 1047, 1056, 1071, 1076

Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 49

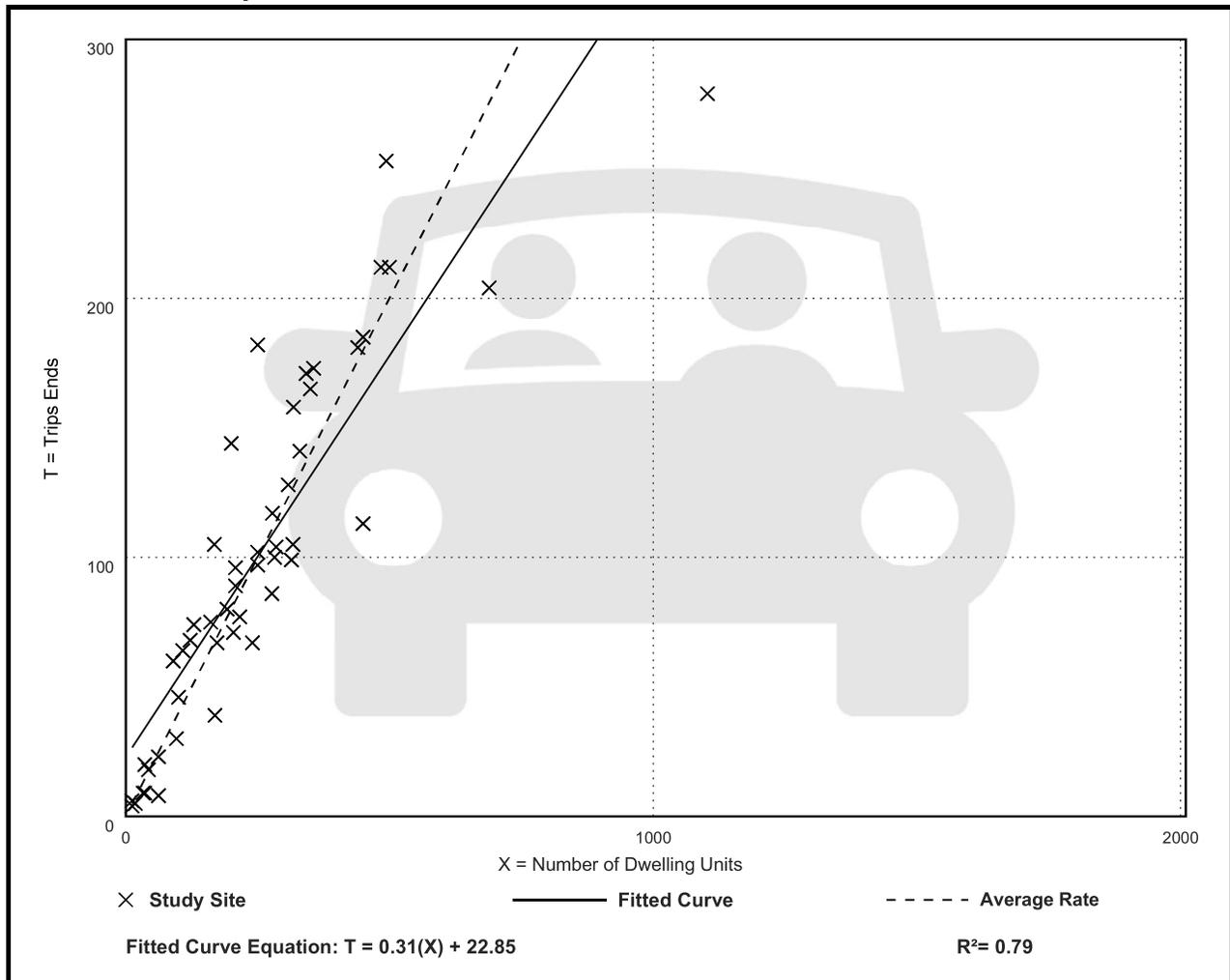
Avg. Num. of Dwelling Units: 249

Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 59

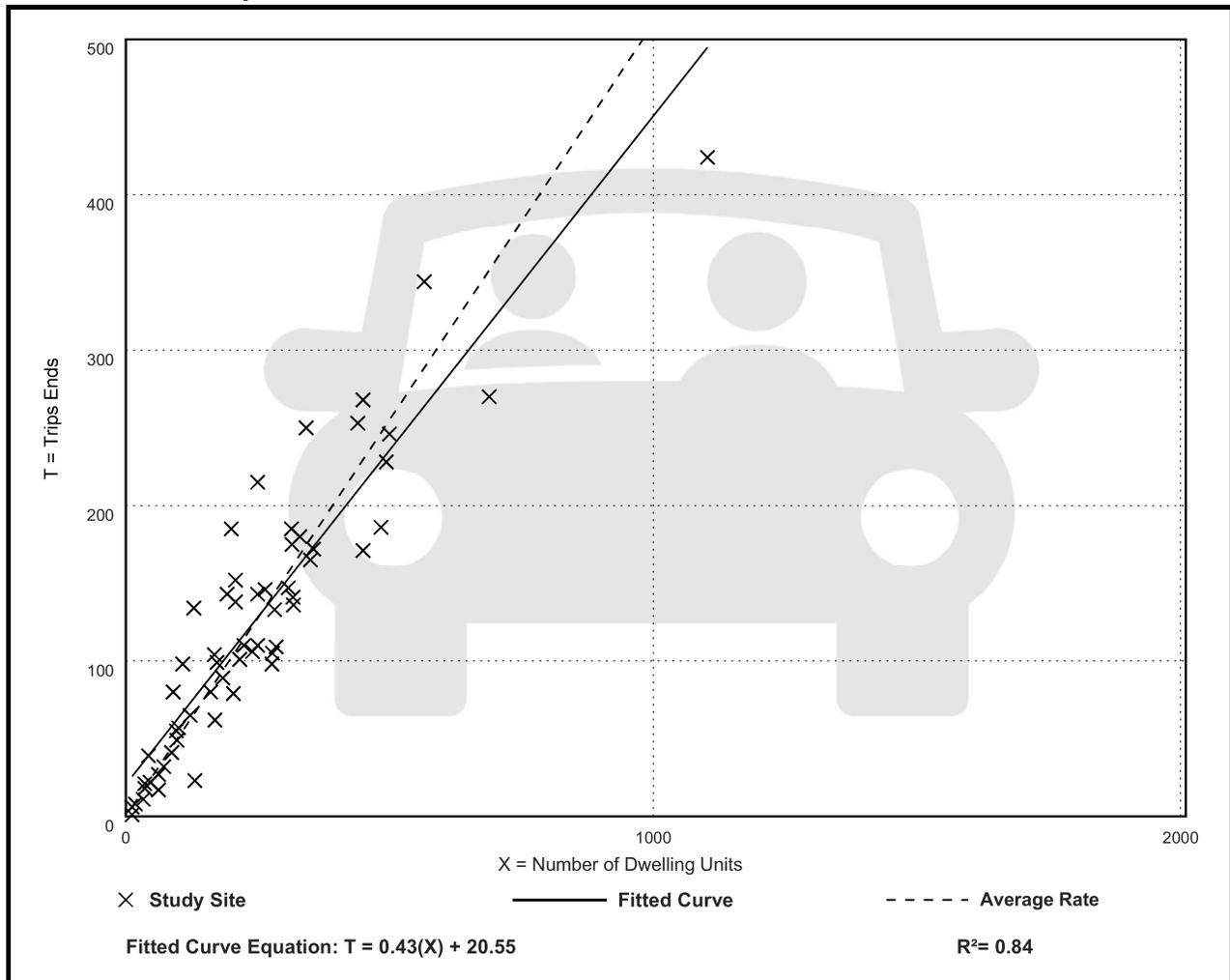
Avg. Num. of Dwelling Units: 241

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation



Appendix 1. Trip Adjustment Factors

Appendix Table 1-1: Policy Area Trip Generation Rate Adjustment Factors

Policy Area	Residential (%)	Office (%)	Retail (%)	Other (%)
1 Aspen Hill	97	98	99	97
2 Bethesda CBD	79	63	61	62
3 Bethesda/Chevy Chase	87	81	85	79
4 Burtonsville Town Center	96	96	99	97
5 Chevy Chase Lake	87	81	85	79
6 Clarksburg East	100	101	100	100
7 Clarksburg Town Center	100	101	100	100
8 Clarksburg West	100	101	100	100
9 Cloverly	99	101	100	101
10 Colesville	96	96	99	97
11 Damascus	101	100	100	100
12 Derwood	94	94	87	94
13 Fairland/Briggs Chaney	96	96	99	97
14 Forest Glen	79	70	64	70
15 Friendship Heights	78	70	73	70
16 Gaithersburg City	88	86	76	85
17 Germantown East	95	95	97	91
18 Germantown Town Center	89	91	89	90
19 Germantown West	93	90	92	88
20 Glenmont	90	91	96	91
21 Great Seneca Communities	89	88	80	90
22 Great Seneca Life Sciences Center	89	88	80	90
23 Grosvenor	81	84	75	80
24 Kensington/Wheaton	91	92	96	92

25 Lyttonsville	84	78	78	77
26 Medical Center	83	72	73	71
27 Montgomery Village/Airpark	93	102	93	102
28 North Bethesda	83	87	71	82
29 North Bethesda Metro Station	79	78	72	78
30 North Potomac	97	100	100	100
31 Olney	99	100	99	100
32 Olney Town Center	99	100	99	100
33 Potomac	97	98	96	98
34 Purple Line East	87	87	89	88
35 Rock Spring	83	87	71	82
36 Rockville City	88	94	87	98
37 Rockville Town Center	79	80	70	79
38 Rural East	99	99	98	100
39 Rural West	100	100	100	100
40 Shady Grove	89	88	77	88
41 Silver Spring CBD	77	65	58	65
42 Silver Spring/Takoma Park	83	83	82	84
43 Takoma	80	74	70	75
44 Twinbrook	81	80	74	79
45 Wheaton CBD	85	85	76	84
46 White Oak	89	90	91	88
47 White Oak Downtown	89	90	91	88
48 Woodside	80	74	70	75