



Virginia Department of Transportation

TRAFFIC IMPACT ANALYSIS REGULATIONS (CHAPTER 527, OFFICIALLY 24VAC30-155)

Robert W. Hofrichter
Director, Office of Land Use

June 2024

Chapter 527 Intent (or Why We Do This)

Provide local governments and locality residents with information on the likely traffic impacts of development proposals.

- **For Comprehensive Plans and Comprehensive Plan Amendments (does not actually require a TIS/TIA, but an “assessment of impacts” except for “small area plan” submittals).**
- **For rezonings and special use permits (requires a TIA—called TIS in the regulations).**
- **Must be available to public! (see LandTrack)**

<https://vdot.maps.arcgis.com/apps/webappviewer/index.html?id=9fd9710898b048e8b3e2c3a74965b1e7>

Ensure some level of coordination between VDOT and the locality

- **Related to Chapter 729 (Local and State Plan and Program Consistency)**

TIA Legislative Background

2006 General Assembly: Chapter 527 creates § 15.2-2222.1 in the Code directing VDOT to develop and implement traffic impact analysis regulations for proposals that will have a substantial affect on state highways.

2007 General Assembly: Chapter 792 allows VDOT to phase implementation, with full implementation by January 1, 2009.

2011 General Assembly: Chapter 647 removes site plans & subdivision plats from TIA regulations; Chapter 870 requires VDOT to review regs and revise based upon public input; Chapter 888 requires a lesser level of review for zoning actions that are consistent with comprehensive plan change.

2012 General Assembly: Chapter 729 requires VDOT review of Comp Plans for consistency with state transportation plans; Chapter 770 requires VDOT in NoVA to show how much congestion will increase or the reduction of mobility in event of homeland security emergency associated with Comp Plan change.

2014 General Assembly: Chapter 766 requires VDOT in NoVA to include comments on methods and costs to mitigate congestion attributable to Comp Plan change.

2016 General Assembly: Chapter 370 requires VDOT in NoVA to provide the Comp Plan response with mitigation information to NVTA.

2017 General Assembly: Chapter 536 requires VDOT in NoVA to specify minor arterial or higher facility expected to exceed capacity associated with Comp Plan change.

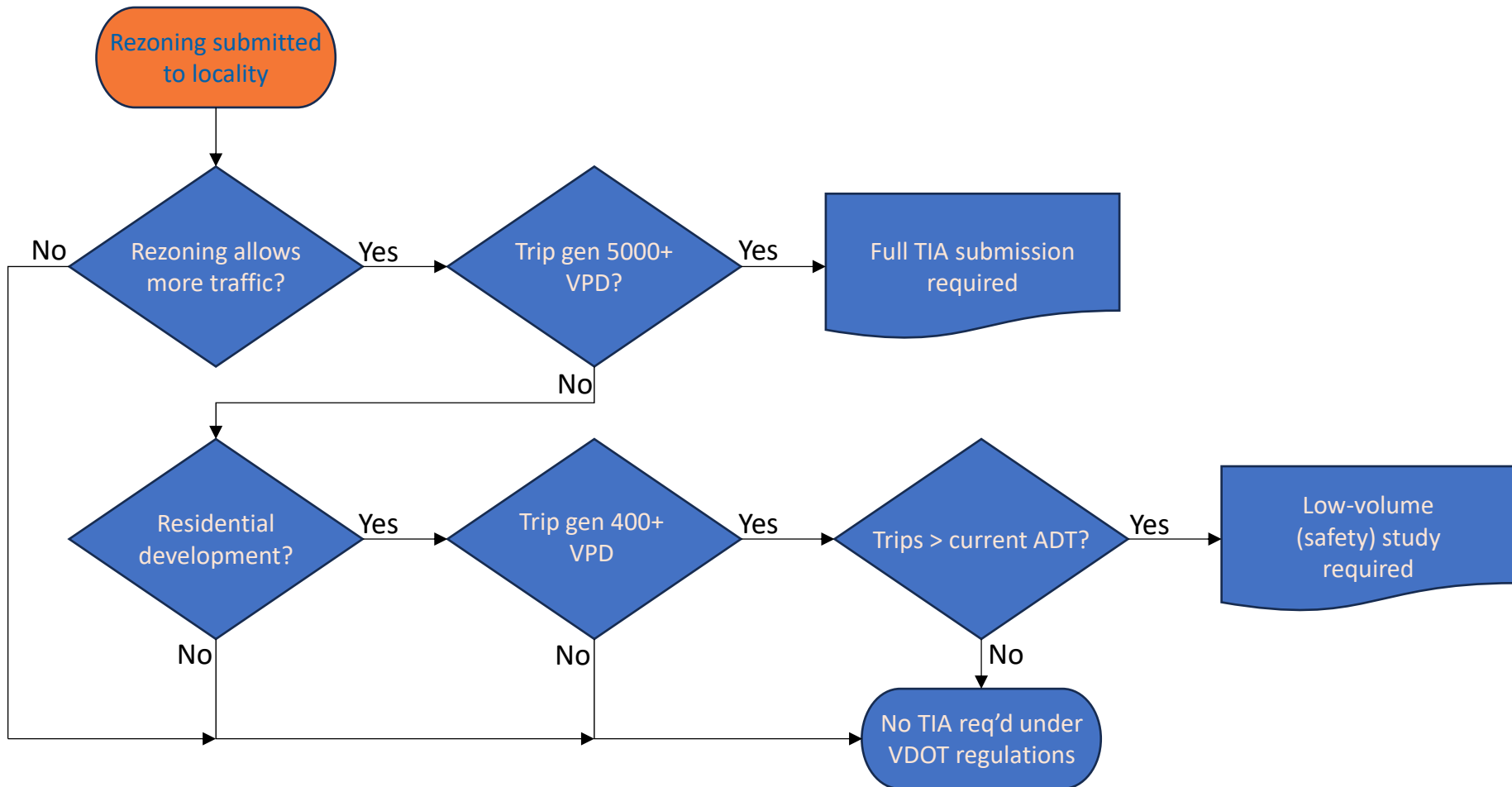
TIA – General Submission Triggers

Land development proposals to be submitted under the TIA Regulations (determination made by locality)

- Comp Plan and Plan Amendment
 - Likely to generate 5000 additional trips per day on state-controlled highways; or
 - Alter future transportation infrastructure, travel patterns, or the ability to improve future transportation facilities on state-controlled highways
- Rezoning and Special Use Permit
 - Generates 5000 trips per day on state-controlled highways (minus trips generated by existing use); or
 - Site is residential and generates 400 trips per day on state-controlled highways and trips exceed existing trips on impacted highway (low volume threshold)
 - Exception: rezoning that does not increase allowable trips (daily and peak hour) over those under existing zoning
 - In locality that maintains own roads—site within 3000 ft of access to state highway
- Trip generation calculated using 8th Edition ITE, not reduced by internal capture

Rezoning Submission Thresholds

TIA submission thresholds for localities in which VDOT maintains local streets



Submission Threshold Land Use Examples

Sample Developments That May Meet Thresholds

ITE Land Use Description		Code	Variable	Low Volume (400 Trips)	Standard (5,000 Trips)
Residential					
Single Family Detached		210	dwelling units	40 du	550 du
Apartment		220	dwelling units	60 du	670 du
Other					
Light Industrial		110	square feet	not applicable	690,000 sf
High School		530	students	not applicable	2,900 st
Hospital		610	beds	not applicable	420 bds
General Office Building		710	square feet	not applicable	560,000 sf
Shopping Center		820	square feet	not applicable	40,000 sf
Home Improvement Superstore		862	square feet	not applicable	170,000 sf

These are estimates that have been rounded and are not official thresholds. They are offered as examples only.

Example 1

New County is updating its comprehensive plan

- Proposed plan calls for
 - Expanding sewer and water service to R1 zoned areas of the county; and
 - Allowing up to 2 rental dwellings on every parcel by-right regardless of zoning
 - Creating a new 12-mile long cross-county 4-lane divided parkway connecting West Town with East Town (travel between these locations currently requires a 17-mile trip on 2-lane country roads, due to limited road crossings of the Wet River).
 - Converting 2000 acres from planned zoning of Agricultural to Solar Farm
 - Tripling the size of the already extensive Agricultural Preservation District
- Which of these might trigger a Chapter 527 comprehensive plan submission?
- **BONUS:** Which of these should trigger a Chapter 729 submission?

Example 2

New County has received a rezoning request from a developer

- Proposed rezoning is located adjacent to East Town in an area currently zoned Agricultural
 - Ag zoning requires lots to be a minimum of 20 acres
 - Parcels to be rezoned are adjacent to Routes 696 and an Urban System street
 - Rte 696 is a paved 18-foot local road with AADT of 90
 - Urban street is a 2-lane paved road with AADT of 440
 - East Town is prohibiting a connection to the urban street due to pressure from local residents
- Rezoning is for 40 acres total; 3 acres to highway commercial (HC), 3 acres to business (B1), and 34 acres to medium density residential RM
 - HC zoning allows gas stations and convenience stores; developer is proffering a limit to 6 pump, 2000 sf gas station/convenience market
 - B1 allows low-rise office buildings; developer is proffering a limit of 20,000 sf of office space
 - RM allows 16 units per acre; developer shows 80 apartment units on the submitted plan
- Would this be expected to trigger a Chapter 527 rezoning submission? Why?
- Who makes the determination?

(Trip Gen rates on following page)

Example 2 Info for Calculation

- No existing land use on property to be rezoned
- Rezoning request
 - 3 acres to highway commercial (HC)
 - 3 acres to business (B1)
 - 34 acres to medium density residential RM
 - HC zoning allows gas stations and convenience stores; developer is proffering a limit to 6 pump, 2000 sf gas station/convenience market
 - B1 allows low-rise office buildings; developer is proffering a limit of 20,000 sf of office space
 - RM allows 16 units per acre; developer shows 80 apartment units on the submitted plan

Trip Gen rates here

Land Use	Rate	Alt Rate
Apartment (LU 220)	6.72/DU	
Low-Rise Apartment (LU 221)	6.59/DU	
General Office Building (LU 710)	11.01/ksqft	
Conv Mkt with Gas Pumps (LU 853)	542.6/vfs	845.6/ksqft
Gas Station with Conv Mkt (LU 945)	162.8/vfs	77.68/ksqft

Example 2 (Solution)

New County has received a rezoning request from a developer

- 6 pump, 2000 sf gas station/convenience market
 - 6 fueling stations x 542.6/fueling station = 3256 tpd
 - or
 - 2K sqft x 77.68/ksqft = 155 tpd
- 20,000 sf of office space
 - 20K sqft x 11.01/ksqft = 220 tpd
- 34 acres with 16 units per acre or 80 apartment units on the submitted plan
 - Unless 80 units is included in proffer, must use maximum allowed by zoning
 - 34 acres x 16 units/acre = 544 units
 - 544 units x 6.59/unit = 3585 tpd
- Total trip generation: 7,061 or 3,960 tpd; 3,585 residential tpd vs 90 AADT and 400 tpd
 - Full TIA required or Low Volume Submission required
- Determination made by New County!

TIS Default Assumptions and Methodology

Based upon ITE Trip Generation, 8th Edition

- Data collection (avoid holidays, inclement weather)
 - Do not collect data on unusual days, unless appropriate (amusement park?)
- Internal capture rates (residential with others, hotel with office, office with retail)
- Pass-by trip rates (per ITE Trip Generation Handbook, 2nd Edition)
- Allow alternate trip generation for “Small Area Plans” (EPA-MXD methodology)
- Level of service calculation (HCM 10th Edition methodology for vehicles, Transit Capacity and Quality of Service Manual for transit)
- Modal split (motor vehicle trip reductions)
 - Bicycle: Maximum 3% trips if Bicycle Service Level A in vicinity
 - Pedestrian: Maximum 4% trips if Ped Service Level A in vicinity
 - Transit: “reasonable” reduction allowed
- **Hold scoping meeting to use alternative assumptions and methodologies (current editions of ITE, HCM, Transit Capacity and Quality of Service)**

Timeframes and Deadlines

- **Comprehensive Plans and Plan Amendments**
 - Submission to VDOT at least 100 days prior to expected final action by locality
 - Request for meeting to be made within 30 days of receipt of package
 - Official response to locality within 90 days of receipt of package
- **Rezoning**
 - Submission to VDOT within 10 days of locality's receipt of complete application
 - Request for meeting to be made within 45 days of receipt of package
 - Official response to locality within 45 receipt of package (no meeting)
 - Official response to locality within 120 days receipt of package (meeting requested)
- **Other Events**
 - VDOT reply to scoping meeting request within 30 days, hold meeting within 60 days
(Note that this must occur PRIOR to official submission of application to locality!)

Other Process Information

- Rezoning submissions made that are consistent with previous comprehensive plan submission:
 - If technical analysis of traffic included in comp plan submission, rezoning submission may be of lowest scope (less than 500 VPH)
 - If for small area plan subunit, and small area plan included TIA, small area plan TIA serves as TIA for rezoning
- Before rejecting incomplete study or requiring resubmission
 - Hold meeting and allow 30 days to make changes
 - If study still deficient (not in accordance with best professional practice, fails to document impacts, or incomplete), may require resubmission
- All submissions must be made with a paper copy and an electronic copy (via CD, DVD, USB “thumb drive,” or file transfer)
- VDOT must post submission and official response on website (via LandTrack)
- For more information:

<https://www.vdot.virginia.gov/doing-business/technical-guidance-and-support/land-use-and-development/traffic-impact-analysis/>

