



TRAFFIC IMPACT ANALYSIS

Presenter

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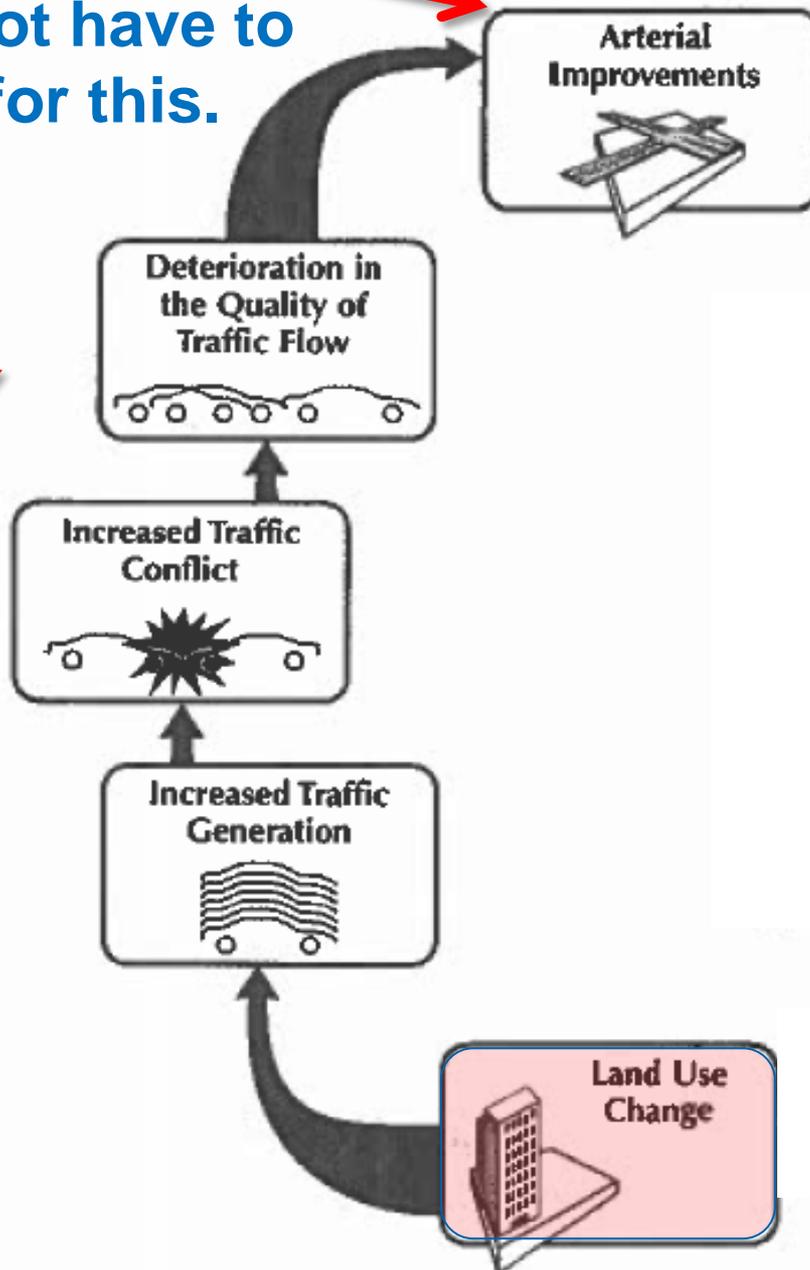
Acting Transportation and Land Use Director

Why a TIA?

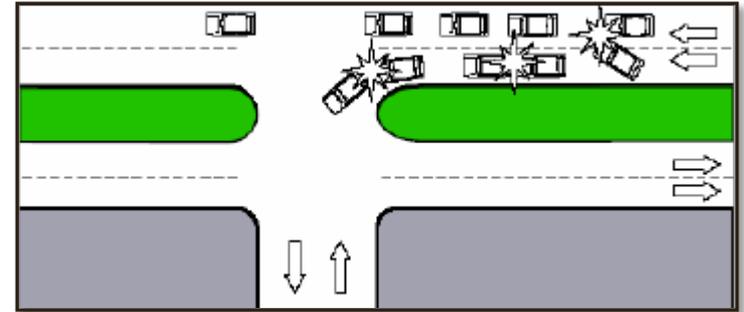
- Roads are a critical public resource and a major investment of public funds
- Traffic impacts from trips generated by development can cause disruption in traffic flow and traffic congestion which can lead to roads becoming less safe.
- TIAs help to ensure development impacts do not overburden the taxpayer.
- TIAs can be applied by public officials to balance:
 - Property owners right to access the highway to use their land
 - Roadway users right to mobility, safety, and efficient expenditure of public funds.

So taxpayers do not have to pay for this.

TIA Study to determine how to prevent this



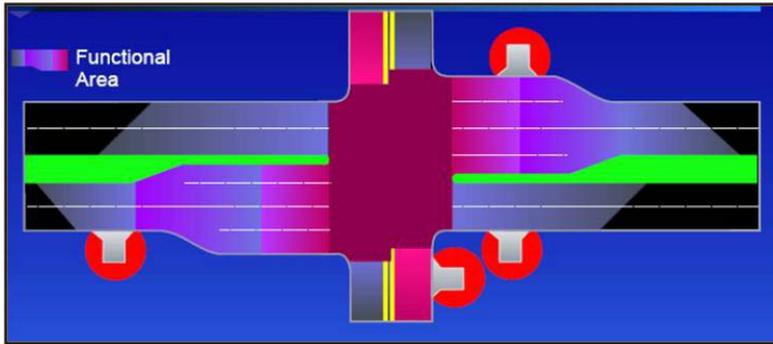
Benefit of the TIA Study to the Community



**Turn lanes and tapers –
Maintain through traffic flow.**

Benefit of the TIA Study to the Community

Entrances away from intersections and interchange ramps



Intersection signal

R-O-W for road widening

Improve sight distance

Interparcel connection

Entrance design

Subdivision connectivity

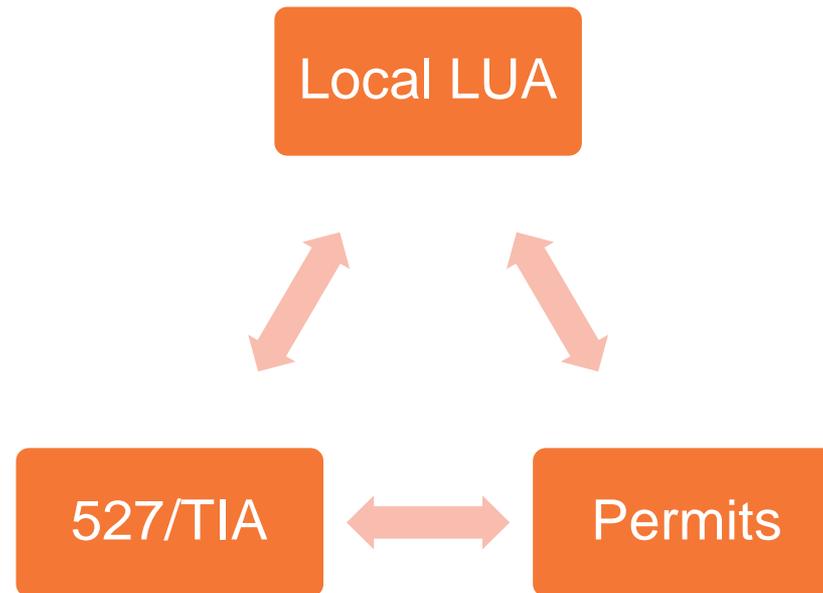


Consolidate existing entrances.



TIA Touch Points

- During Local Land Use Actions
- Chapter 527
- VDOT Permitting Process



Local Land Use Approval Process

The rezoning of property is the earliest point in the local land review process that offers flexibility in design details

- **By evaluating the proposal**
 - **Impacts on the transportation network can be identified**
 - **Measures to address the impacts can be determined**
 - **Locality can request a TIA at this stage.**
 - **GREAT TIME FOR VDOT PARTNERING!**
- **Conditional zoning - opportunity for applicant to proffer both on-site and off-site transportation improvements to mitigate impacts – GREAT TIME FOR VDOT PARTNERING**

Local Land Use Approval Process

Site plan and subdivision plat review

- Examine details on the design and layout of the development
- **GREAT TIME FOR VDOT PARTNERING!**

VDOT offers assistance to localities in the review of:

- The transportation portion of comprehensive plans
- Rezoning requests, and
- Site plans and subdivision plats.

AT THIS STAGE, VDOT IS ADVISORY ONLY

Chapter 527 - Traffic Impact Analysis

Land development proposals to be submitted

- **“Substantially affect** transportation on state controlled highways” based on traffic volume
 - 5,000 trips per day (standard threshold)
 - 400 trips per day and at least equals existing traffic on road (for residential development only, low volume road threshold)
- **Dependent upon**
 - Submission type
 - Comprehensive Plan or Plan Amendment
 - Rezoning or Special Use Permit
 - Location
 - Within 3,000 ft of connection to VDOT highway (for non-VDOT localities)
- **Exception:** Rezoning that does not increase trips (daily and peak hour) over those allowed under existing zoning

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

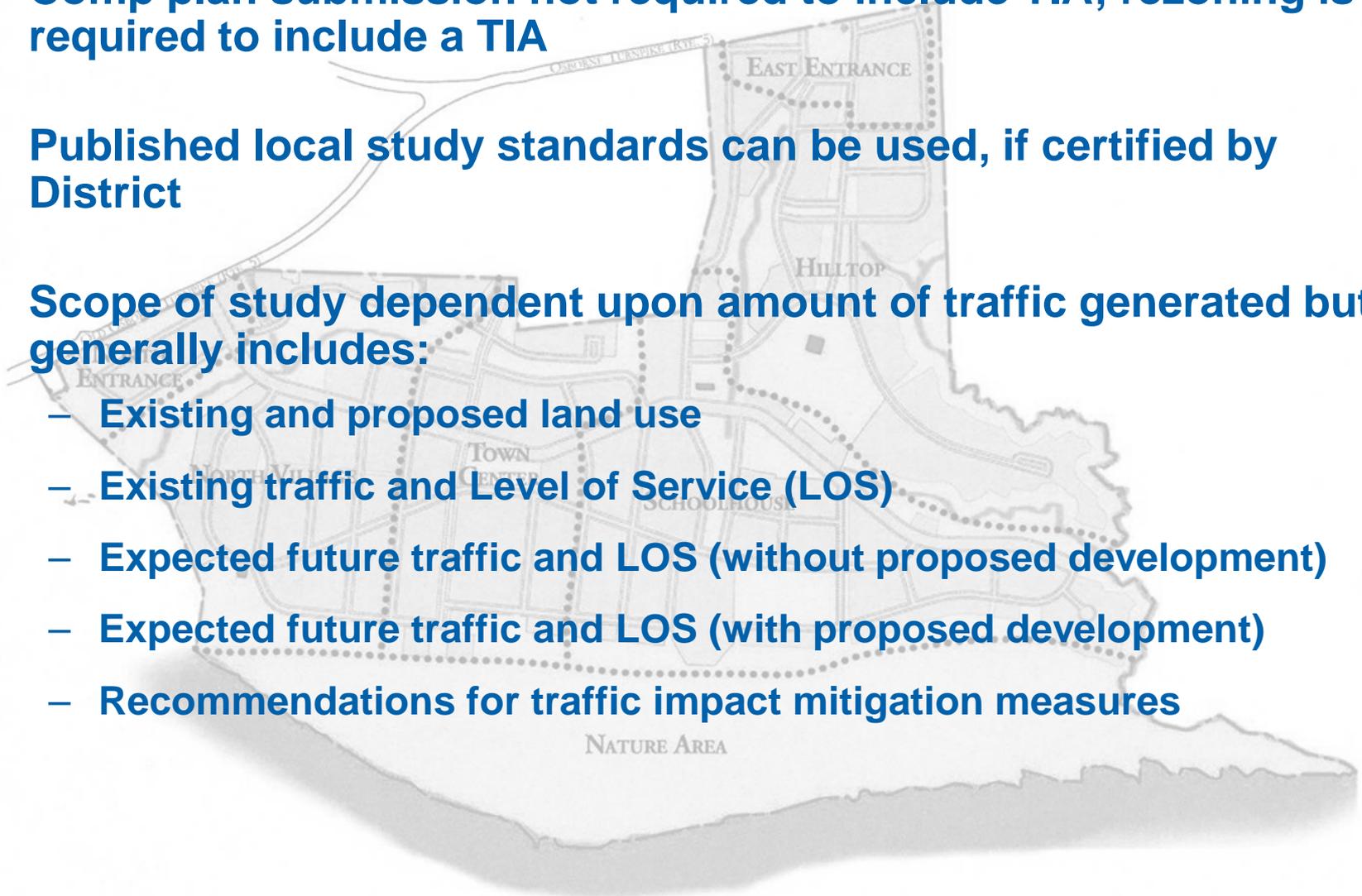
These are estimates that have been rounded and are not official thresholds. They are offered as examples only.

Chapter 527 TIA Regulations

- A 527 TIA study prepared per the methodology **can still be requested** by the locality.
- VDOT will provide **a written response** to locality/developer:
 - Summarize key findings of the study
 - Comments on recommended highway improvements
 - Advise on needed compliance with other VDOT regulations
 - Comments on suggested improvements to other travel modes.

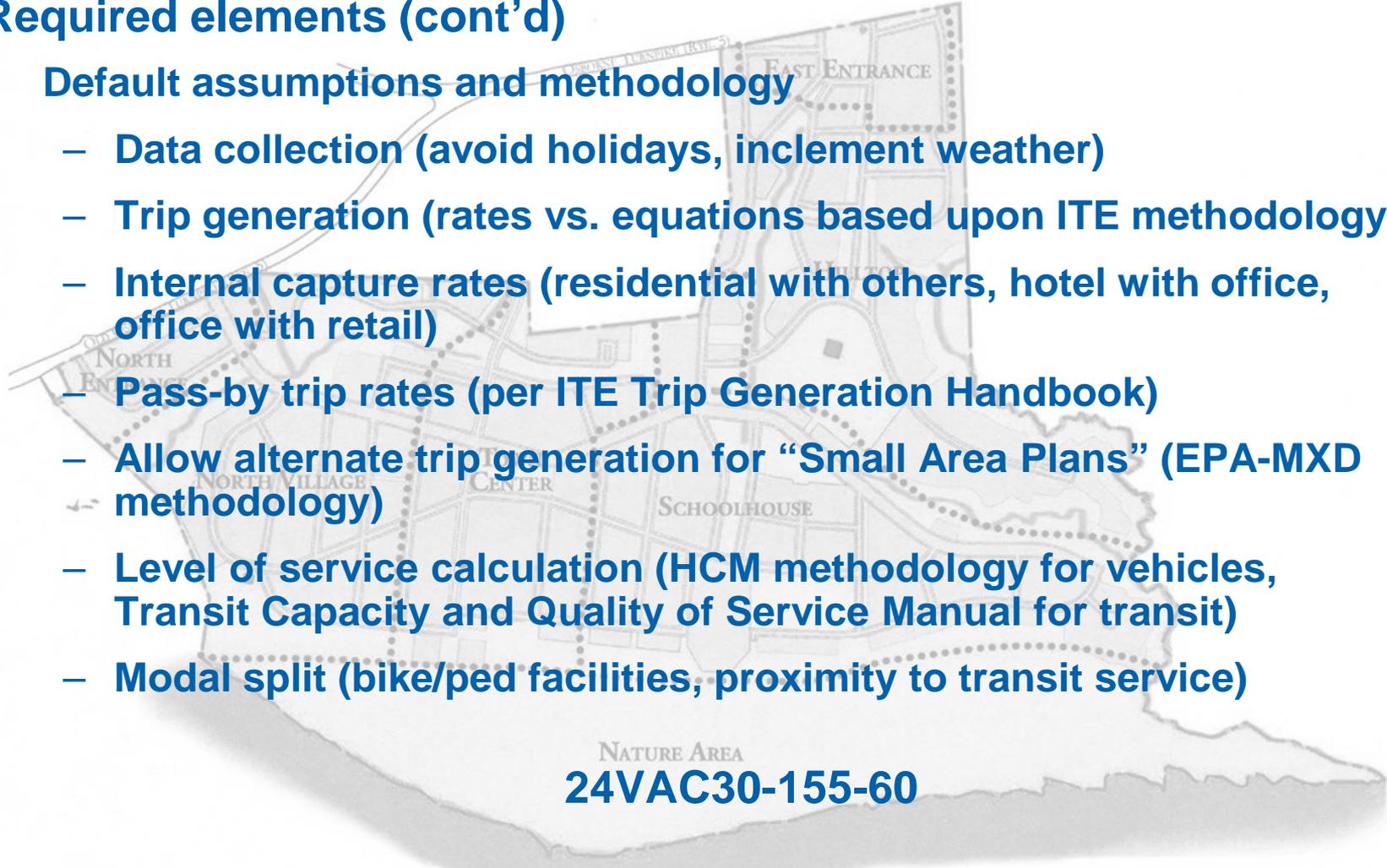
527 -Traffic Impact Analysis

- **Comp plan submission not required to include TIA; rezoning is required to include a TIA**
- **Published local study standards can be used, if certified by District**
- **Scope of study dependent upon amount of traffic generated but generally includes:**
 - Existing and proposed land use
 - Existing traffic and Level of Service (LOS)
 - Expected future traffic and LOS (without proposed development)
 - Expected future traffic and LOS (with proposed development)
 - Recommendations for traffic impact mitigation measures



Required elements (cont'd)

- **Default assumptions and methodology**
 - Data collection (avoid holidays, inclement weather)
 - Trip generation (rates vs. equations based upon ITE methodology)
 - Internal capture rates (residential with others, hotel with office, office with retail)
 - Pass-by trip rates (per ITE Trip Generation Handbook)
 - Allow alternate trip generation for “Small Area Plans” (EPA-MXD methodology)
 - Level of service calculation (HCM methodology for vehicles, Transit Capacity and Quality of Service Manual for transit)
 - Modal split (bike/ped facilities, proximity to transit service)



24VAC30-155-60

VDOT Permitting Process

Permits allow users to perform work within our roadways and rights of ways.

1. A permit is required for any type of **utility activity** occurring within the right-of-way.
2. A permit is required to install any **entrance** onto a state highway.
3. A permit is required to perform **surveying operations** within the right-of-way.
4. A permit is required for any **agricultural and commercial use and occupancy** of the right-of-way.
5. A permit is required for any **miscellaneous activity or use of the right-of-way** except for mailboxes and newspaper boxes (see 24VAC30-151-560) and public service signs (24VAC30-151-570).

TIAs and Entrance Permits

- **What is the relationship between TIAs and commercial entrance permits?**
- **VDOT can request a TIA in order to determine impacts of development during the permitting process.**
- **24VAC30-73-70 Commercial Entrance Design**
 - **At the request of the district..., the permit applicant shall furnish a report that documents the impact of expected traffic movements...”**





TIA's During Permit Stage

- If VDOT has not heard about the project until the permit stage, it is more difficult to plan appropriate mitigation measures for transportation impacts.
- Many times the site plans, rezonings, CUPs, and subdivisions have already been approved by the planning commission and/or the governing body making changes to the site plan difficult.
- Typically, local governments are disengaged at this stage since they have completed all of their processes.
- Causes unnecessary delays in commercial entrance permit approval process.
- More costs and time at end of process when developer was least expecting it.



TIAs During Permit Stage

Suggestions

- **Engage** VDOT as a partner in the process as early as possible.
- If a TIA is needed to mitigate impacts, have the land development applicant **prepare it earlier in the process.**
- Also, ensure that it meets **VDOT's expectations** as well so that all information is provided avoiding additional delays.
- VDOT is available in an **advisory role** and would be happy to assist during the land use action.

Conclusion

- **TIAs are vital to the mobility and safety of the travelling public**
- **TIAs provide information to help ensure that development mitigates their impacts on the road system.**
 - **TIAs are required for Chapter 527 rezonings,**
 - **Should be part of the local land development review process,**
 - **May be required by VDOT during entrance permit review.**
- **Chapter 527 provides a thorough traffic impact analysis methodology for rezonings that fall under 527.**
- **Localities can request TIAs for non-527 land use actions.**
 - **TIA methodology can be different for non-527 developments.**
- **The traffic impacts of development should be considered as early in the process as possible.**

QUESTIONS / COMMENTS

**For more information on the state law, regulations
and traffic impact analysis studies**

**See the VDOT web site, Info Center tab, Transportation and
Land Use**