Secondary Street Acceptance Requirements

Guidance Document for the Commonwealth Transportation Board's Secondary Street Acceptance Requirements

March 2009

Note to Readers: The following document contains information which describes the policies and procedures related to the Secondary Street Acceptance Requirements which became effective on March 9, 2009. This Guidance Document is a draft that is intended to grow and be embellished upon in the future.

If you have comments concerning changes or additions that you think should be made to this document, please press the link below to send your communication directly to Lynne Wasz at the Virginia Department of Transportation. Our goal is to provide an accessible and comprehensive document and look forward to receiving your input.

Lynne.Wasz@vdot.virginia.gov

DRAFT

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Guidance Document for the Commonwealth Transportation Board's Secondary Street Acceptance Requirements (24VAC30-92)

March 2009

For further information, contact:
VDOT District Administrators
Or the VDOT Maintenance Division
1401 East Broad Street
Richmond, Virginia 23219
804-786-0819
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VDOT Virginia Department of Transportation

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Secondary Street Acceptance Requirements
Guidance Document

1) Redefining Virginia's Secondary Street System

A. What is the SSAR and its importance to the development community?

The Secondary Street Acceptance Requirements (SSAR) are a result of legislation introduced at the request of Governor Timothy M. Kaine and unanimously adopted during the 2007 session of the Virginia General Assembly. In recent years, the number of streets accepted into the secondary system and the level of congestion have increased while state and federal transportation resources have decreased, resulting in a need to re-examine existing state policy. The policy and design standards contained within the SSAR are new to the state and are intended to increase the efficiency of the street network and encourage multi-modal transportation. The SSAR serves as a vital component in the planning, design, and delivery of a street network which will promote livability, a more efficient transportation network, and the creation of more transportation choices. These benefits were recognized by both the legislative and executive branches through the enactment of Chapter 382 of the 2007 Acts of Assembly.

This SSAR Guidance Document will assist staff of the Virginia Department of Transportation (VDOT), the development community, and local government staff in the proper development and review of plats and plans, related administrative processes, construction inspections, and applicable fees.

The Guidance Document is designed to direct the user through the specific standards and procedures contained within the SSAR. The document is organized in the following manner:

1. Background and origin of the SSAR
2. Roles of VDOT staff and the development community
3. New provisions for street acceptance
4. Types of plans governed by the SSAR, effective date, and transition period
5. Description of the SSAR's review and approval processes
6. Discussion of the phased development of street lanes
7. Appeal processes contained within the SSAR
8. Street design requirements
9. Required rights-of-way
10. Surety, fees, and inspection processes

At the time that developers and engineering consulting firms are planning projects, they must determine if the proposed streets will be planned and constructed to be eligible for acceptance into the state system. Roads designed and constructed to the standards in the SSAR may qualify for acceptance into VDOT's secondary system of streets. This means that following the appropriate layout, design construction, inspections, and payment of fees, VDOT will maintain these new streets. These streets will be required to meet the requirements of the SSAR regulation to be eligible for this perpetual public maintenance.

Streets are also built which do not meet VDOT requirements. These roads will be privately or locally maintained by the developer, a property owners association, or a local government. Such streets may meet the standards of the SSAR at the choice of the developer or as required by local ordinances.

B. Origins and Development of the SSAR

The SSAR was developed in response to legislation introduced at the request of Governor Kaine and unanimously adopted during the 2007 Session of the General Assembly. Chapter 382 of the Acts of Assembly of 2007 added §33.1-70.3 to the Code of Virginia, which required the Commonwealth Transportation Board (CTB) to develop new standards for the acceptance of newly constructed roads into VDOT's secondary street system. These standards will ensure that such streets provide adequate public benefit to justify their perpetual public maintenance. The SSAR supersedes the January 2005 edition of the Subdivision Street Requirements. There are differences between the Subdivision Street Requirements and the SSAR, but §33.1-70.3 specifically includes three legislative goals which the SSAR must meet. These goals include:

1. Ensuring the connectivity of road and pedestrian networks with the existing and future transportation network
2. Minimizing stormwater runoff and impervious surface area
3. Addressing performance bonding needs of new secondary streets and associated cost recovery fees

These provisions will help ensure that streets built by developers will enhance the overall capacity of the transportation network by providing additional transportation connections to adjacent developments. In the past, many developments had been built with one way in and one way out. Developments with this type of street network place an unsustainable burden on the regional transportation network by requiring that all trips – both local and long-distance – use the regional transportation network. Additional transportation connections between adjacent developments will allow local trips and the local portion of long-distance trips to take place on local streets.

In essence, this regulation modifies the public-private partnership between the developer, the locality, and the state. This process begins with the locality's creation of its comprehensive plan, subdivision, and zoning ordinances. Within this relationship, the Commonwealth agrees to maintain streets built by developers to the benefit of their developments and the citizens that purchase homes in those developments. In exchange, the developer builds a street network that enhances the capacity of the overall transportation network.

The SSAR was developed by an Implementation Advisory Committee appointed by the Secretary of Transportation. The Committee was composed of stakeholders from such diverse groups as environmental organizations, development companies, local governments, and emergency responders. Upon completion of the initial SSAR draft, a series of regional briefings were held with planning district commissions, developer associations, and other stakeholder groups. This was followed by a public comment period which took place between April 15 and June 30, 2008. Numerous comments were submitted, compiled, and analyzed for potential amendments to the SSAR. The Secretary's office and VDOT then initiated work groups to revise the regulations based on public comment.

C. Roles and Responsibilities

There are numerous individuals who are crucial in the land development and street acceptance processes. The following is a list and description of the primary parties:

1. Applicant/Developer – The individual, corporation, or local government who submits a plan or plat to VDOT which involves the potential inclusion of streets into VDOT's secondary street system for maintenance.
2. District Administrator – The individuals responsible for the management of VDOT's construction districts. The District Administrator may be called upon during the land development process to interpret SSAR regulations. The SSAR also directs the District Administrator to determine certain appeal requests.
3. District Administrator's Designee – This individual will be responsible for reviewing plats and plans for compliance with the SSAR, managing the street acceptance process as well as making initial determinations regarding the interpretation of the SSAR.
4. Local Government Official – The person or department within the local government who is responsible for the review and approval of site plans. This person or office is most often located in the Planning, Engineering, or Land Development office and works closely with VDOT staff.
5. VDOT Maintenance Division – This Division is accountable for the administration of the secondary street acceptance process. The Division may be required to render decisions and opinions regarding the interpretation of regulations governing VDOT's street and highway systems. Applicant appeals to the Commissioner are managed through this division.

D. Approval and Effective Date

The Commonwealth Transportation Board approved the SSAR at its February 19, 2009 meeting. The effective date of the SSAR is March 9, 2009. There is a transition period from the effective date until July 1, 2009. This transition period is discussed in the "Grandfathering" section of the Guidance Document on page 38. Section 30-92-20 of the SSAR, on page 10 of the regulation, discusses this effective date, the transition period, and how they correspond to different types of plats and development plans.

E. VDOT Contact Information

If you would like more information or have additional questions regarding the implementation of the SSAR, please contact your local VDOT District office or consult VDOT's "Transportation and Land Use" page of its website at http://www.virginiadot.org/projects/ssar/default.asp.

2) New Provisions for Street Acceptance

As discussed within the previous section, the SSAR was developed in response to legislation requiring that the CTB create new standards for the construction of secondary streets. These standards were required to meet the three legislative goals established within §33.1-70.3 related to connectivity, minimizing stormwater runoff, and updating cost recovery fees.

The SSAR replaces VDOT's previous Subdivision Street Requirements. Although there are differences between the Subdivision Street Requirements and the SSAR, many of the administrative provisions and standards within the Subdivision Street Requirements are included in the SSAR. This Guidance Document will provide direction to assist with the implementation of the SSAR and it will also highlight the differences between the Subdivision Street Requirements and the SSAR.

A. Overview of Differences Between the Regulations

There are a number of major distinctions between the two regulations. These include the following:

1. Area Types – The division of the state into three categories based on long-term local, regional, and federal planning boundaries. The area types recognize the diversity of development and infrastructure needs throughout the Commonwealth by establishing graduated connectivity standards for developments based on the area type in which they are located. These area types include Compact, Suburban, and Rural. Area types are discussed on page 8 of the Guidance Document.
2. Ensuring Connectivity – Standards to ensure connectivity of streets between adjacent developments and undeveloped parcels. Improved connection of newly constructed secondary streets to the existing street network and future developments will improve the network's overall efficiency. This section begins on page 13 of the Guidance Document.
3. Network Additions and Individual Streets – The acceptance of new streets for a phase or an entire development as a single addition instead of acceptance of each street individually. Individual streets may still be accepted into the state system on a significantly more limited basis. This distinction is important because network additions within Compact and Suburban area types are required to meet connectivity index standards, while individual standard streets do not need to meet an index standard. This section is located on page 29 in the Guidance Document.
4. Pedestrian Accommodations – Standards to ensure that pedestrian accommodations are provided where appropriate. Such facilities are important since they provide alternatives to personal vehicle trips. This section begins on page 30 of this document.

5. Context Sensitive Street Design – Revised street design requirements to provide initial design that will serve as built-in traffic calming measures to help ensure appropriate vehicular speeds in residential areas. The revised design standards also offer increased flexibility to use low impact development techniques to help reduce stormwater runoff. Context sensitive street design is discussed on page 37 and page 52 in the Guidance Document.
6. Third Party Inspections – The creation of an alternative to traditional VDOT inspection of additions to the secondary system. Third party inspections are discussed on pages 37 and 60 in the Guidance Document.

B. Area Types - One Size Does Not Fit All – (Page 15 and section 30-92-50 within the SSAR)

The SSAR recognizes that all areas of the Commonwealth are not the same and that infrastructure needs vary accordingly. For example, infrastructure needs in an urban development area are likely not the same as in a small rural subdivision, and vice versa. These differences are recognized through the establishment of three area types based on long-term local, regional, and federal planning boundaries. The area types are important as the regulation establishes graduated connectivity requirements for developments based on the area type where they are located.

The area type boundaries were developed using a methodology based on population data, and regional and local planning decisions that designate certain regions as current growth areas, areas that will experience growth in the future, or areas that will remain rural for the foreseeable future. The area type boundaries are based on long-term local, regional and federal planning boundaries. This results in area types established through objective and community based decision making. There are four main criteria and corresponding groups which determine the planning boundaries for the area types. These include:

1. Establishment of Urban Development Areas is determined by the local governing body;
2. Smoothed urban boundaries are established by regional planning organizations and VDOT and approved by the U.S. Department of Transportation;
3. Study area boundaries of a Metropolitan Planning Organization (MPO) are established and adjusted in accordance with the recommendations of the respective MPO policy boards; and,
4. Resolutions and ordinances approved by the local governing body determine the “transfer of development rights” and clustered development areas, and the local government may also designate certain areas as Compact or Suburban area types.

An applicant will need to identify the exact area type of the land to be developed during the conceptual sketch plat phase of land development planning. VDOT will provide current locality listings and corresponding maps to display the state’s area type boundaries. These documents will be revised in April and October every year in response to revisions to applicable planning boundaries.

In the event that the proposed land to be developed is located within more than one area type, the entire development must meet the requirements for the area type with the higher standards. For example, if a development is located in the Compact and the Suburban areas, it must meet the requirements for the Compact area type.

Area Types Defined

Compact Area Type –
The Compact area type is where the highest levels of development are planned to occur. The SSAR lists five criteria which define this area. If one or more of the criteria apply to an area, it will be defined as "Compact" and will be required to meet all applicable requirements within the SSAR. The following is a description of the Compact criteria:

1. An area designated by the local governing body in its local Comprehensive Plan as an "urban development area." Urban development areas are generally designated by a locality with a population of at least 20,000 and a growth rate of at least 5% since the last census. They can also be designated by a smaller locality with population growth of 15% or more. The exact definition is included in §15.2-2223.1 of the Virginia Code.
2. An area located in a "smoothed urbanized area." This includes U.S. Census Bureau defined areas with a population density of at least 1,000 people per square mile and surrounding census blocks that have an overall density of at least 500 people per square mile; the term "urbanized area" denotes an area of 50,000 or more people.
3. An area for which the local governing body has approved a resolution or ordinance designating the area as "Compact" for the purpose of the SSAR requirements, provided that the area is designated in the adopted local comprehensive plan as an area for median lot sizes no greater than one half acre.
4. An area located in a locally "designated transfer of development rights" receiving area; localities should possess documentation as to the exact location of these areas. Transfer of development rights are discussed in §§15.2-2316.1 and 15.2-2316.2 of the Virginia Code.
5. An area located in a "smoothed urban cluster boundary." Urban cluster refers to an area with a population of between 2,500 and 49,999 people.

Suburban Area Type –

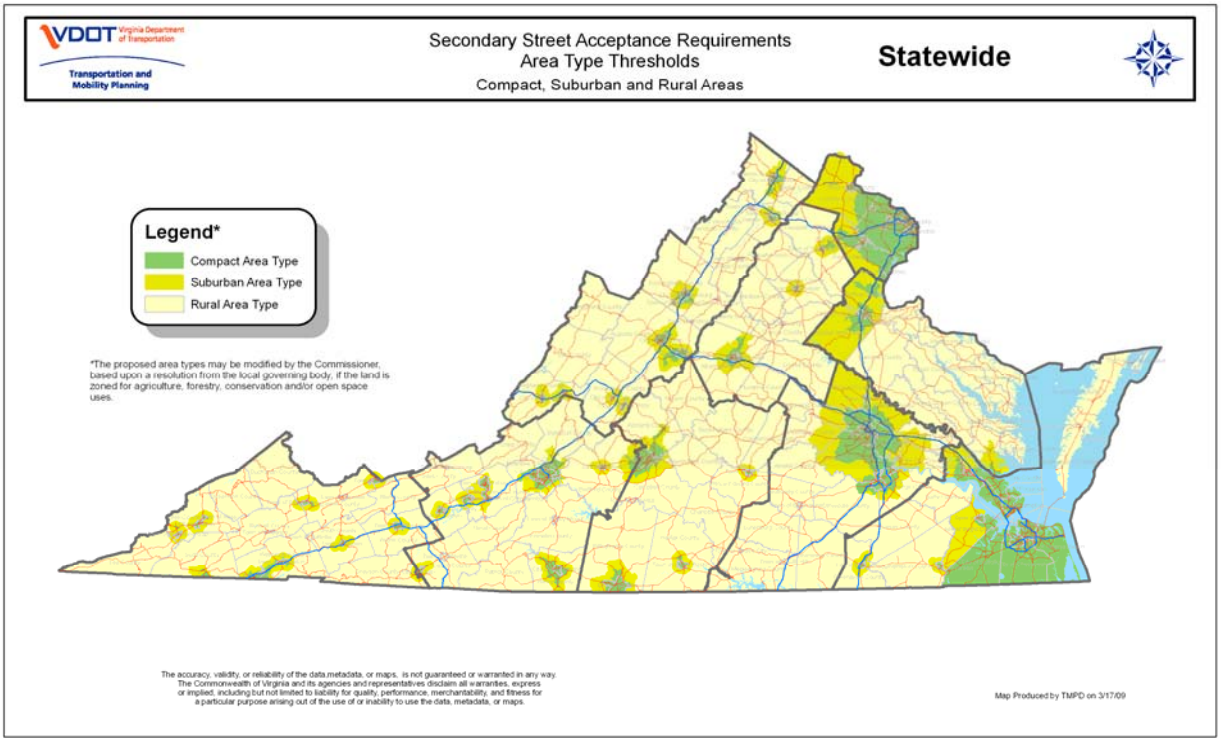
The SSAR includes five criteria related to the Suburban area type. A proposed development will be included within this area type if it meets one or more of the following criteria and does not meet any of the Compact area type's criteria:

1. Located outside of a "smoothed urbanized area" as defined above, but within an official Metropolitan Planning Organization study area.
2. Located within a two mile radius of an "urban development area" (see definition within the Compact area description above).
3. Located within two miles of a "smoothed urban cluster" area
4. Located within a designated "cluster development" area as established by the local governing body pursuant to § 15.2-2286.1. Such an area is characterized by lots being concentrated within a specific area and generally a larger area being reserved and maintained for either open space or recreational community uses.
5. The local governing body has approved a resolution or ordinance designating the area as "Suburban" for the purposes of the SSAR and provided that the area is designated in the adopted local comprehensive plan as an area for suburban development with median lot sizes no greater than two acres.

Rural Area Type –

All areas of the state that are not described by the criteria used to define the Compact and Suburban area types are designated to be within the Rural area type.

Virginia Area Type Map



Planning Boundaries and Area Type Designation
There are instances when a local governing body, the metropolitan planning organization, or the U.S. Department of Transportation amend the perimeters of one of its planning boundaries. These planning boundaries are used to establish area types and are listed in the "Area Type Threshold" subsection, part A of the SSAR.

When the planning boundaries are amended, VDOT will recognize such amendments and revise the related area type designations accordingly. In order to process this area type administrative change, the local governing body or metropolitan planning organization will need to provide the department with a copy of the adopted ordinance or resolution which impacts the planning boundary. The entity responsible for the amended planning boundary shall also provide VDOT with maps which show the affected areas as soon as possible.

Modifications to the Area Type Thresholds
Generally, area type perimeters will be consistent with all of the planning boundaries which define the outline of the Compact and Suburban area types. This section of the SSAR addresses those instances in which the local governing body may request for the area type perimeter to differ from one of the following planning boundaries:

1. Smoothed urbanized area
2. Smoothed urban cluster
3. Metropolitan planning organization study area
4. Within two mile radius of a smoothed urban cluster

As there may be instances where a local government's vision for development does not align with federal and regional planning boundaries, VDOT has established a process to review such a request from the local government. When this situation takes place, the local government should contact the agency to discuss a proposed modification to area type. The local government will proceed by approving a resolution that requests that VDOT alter the area type boundary while recognizing that it will be different from the corresponding planning boundary. The resolution and any supporting documentation should support the board's request for the modification. Approval of such a modification request is not assured and will be reviewed on a case-by-case basis.

The Commissioner will consider such matters as the permissible parcel sizes, the existing land uses, and all stated reasons for the modification to ensure that the area is indeed being regulated in such manner that necessitates a change in area type. The agency will notify the local government within 45 calendar days of receipt of its modification request as to the Commissioner's final decision.

The area type modification request will be reversed if the subject land is rezoned or completes a planning process change which alters its initial "by right" land uses. This will mean that the area type modification will be reversed and return to its original area type if the zoning change is not consistent with the local government's request for area type modification. This would include such changes as revision to land use type or density.

Modifications to VDOT's Area Type Maps
VDOT will maintain the official area type maps for the state. Twice annually, the agency will make official modifications to the map and publish a revised version.

The maps will include modifications due to action by a local governing body or metropolitan organization based on the date the related ordinances or resolutions were adopted. The following lists these two time periods:

- Ordinances or resolutions adopted between January 1 and June 30 of any year shall become effective on October 1 of that year
- Ordinances or resolutions adopted between July 1 and December 31 will become effective on April 1 of the next year

C. Public Benefit Requirements (Page 19 and section 30-92-60 within the SSAR)

Prior to the acceptance of streets or network additions into its secondary system, VDOT must ensure that the proposed streets meet specific public service requirements to warrant public maintenance of these facilities. Streets must provide connectivity, appropriate pedestrian accommodations, and public service to meet the public benefit requirements.

Public benefit requirements promote a positive relationship between the secondary street network, land use, and citizens. This section of the Guidance Document will discuss in detail the public benefit requirements related to connectivity, pedestrian accommodations, and public service standards.

When a developer is considering phasing of a development, care must be taken to ensure that each phase is designed so that it meets the public benefit requirements. This will allow the streets in the each phase of the development to be accepted when they are complete.

1. <u>Connectivity Requirements</u> (Page 21 and section 30-92-60 within the SSAR)

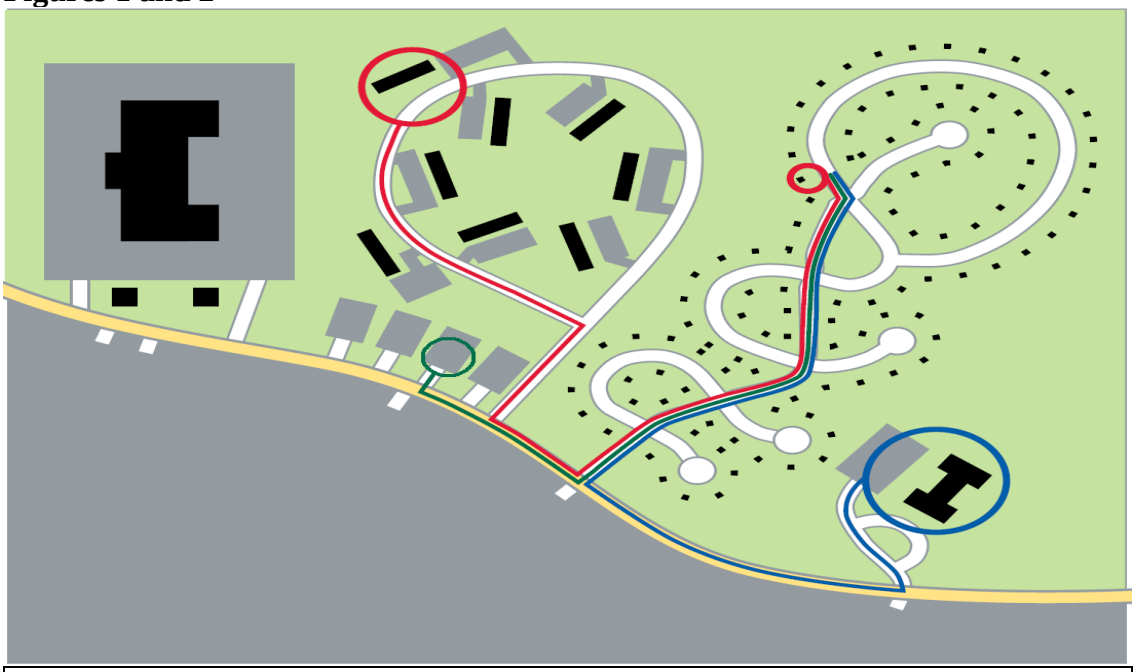
a. Definition, Purpose of Section, and Relationship with Legislative Goals
One of the legislative goals of the SSAR within §33.1-70.3 is to "ensure the connectivity of road and pedestrian networks with the existing and future transportation network."

The regulation requires that new developments provide connectivity between adjacent developments and undeveloped parcels. The provision of connectivity can help improve the overall capacity of the transportation network. In addition, by providing direct and alternative routes, connectivity can help reduce the burden on major roadways and vehicle miles traveled, and improve emergency response times. These additional routes not only provide more direct courses for public safety equipment, but also offer multiple approach points for residents in the event of a road closure.

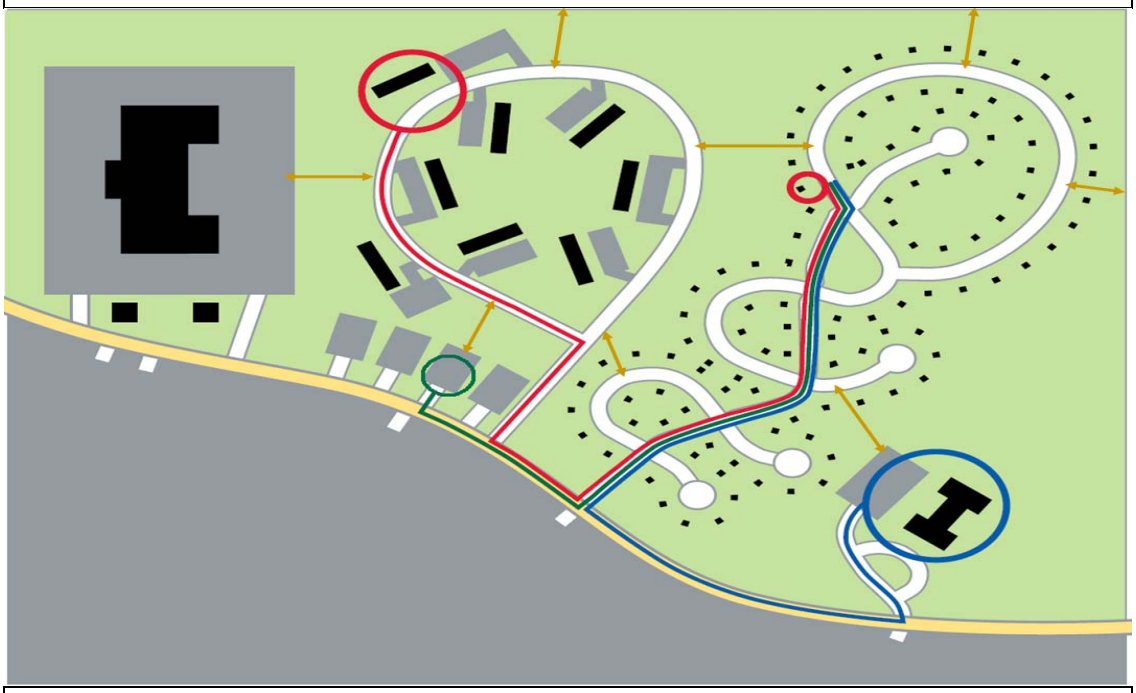
In the past, many developments have been built with one-way in and one-way out. Developments with this type of street network require that all trips, both short and long, use the regional highway network. Such development patterns also concentrate traffic flow into discrete locations that often require signalization. The increased trips and signalization create congestion on the regional network. This leads to the demand for additional capacity on the regional network and lower network performance. This results in higher costs to provide the same level of accessibility provided by a connected network.

Connectivity can be defined as connections to an adjacent property or a stub out that will allow for future street connection to an adjacent property. The connectivity standards in the SSAR vary based on the area type of the development. The SSAR recognizes that connectivity is not always feasible and contains exceptions to address these situations. The diagrams below demonstrates how the lack of connecting adjacent developments can decrease the efficiency of the street network as well as increase travel times and vehicle miles traveled.

Figures 1 and 2



In the example above, any local trip to a neighbor's house, the nearby store, or the school would require the driver to access the major highway to arrive at their destination. This design requires that all trips rely on these highways.



The goal of connectivity is to provide additional connections between adjacent developments and undeveloped parcels to allow local trips to use local streets. If street connections were built between the developments in the diagram above, trips to the mall, the stores, school, and a neighbor's house would not require the use of the major highway.

b. Connectivity Standards (Page 21 within the SSAR)

- Compact Area Type - Developments located in the Compact area type will need to have sufficient connectivity to adjacent properties, multiple connections in different directions, and an overall connectivity index of at least 1.6.
- Suburban Area Type - Developments located in the Suburban area type will need to have sufficient connectivity to adjacent properties, multiple connections in different directions, and an overall connectivity index of at least 1.4.
- Rural Area Type. Developments located in the Rural area type will need to have multiple connections to adjacent properties and in multiple directions but will <u>not</u> be required to meet a specific connectivity index.

c. Stub Out Streets

Connections to adjacent properties can be accomplished through two methods. One method is to construct streets to connect with existing developments; these streets usually will connect to stub outs in the existing developments. The second method is to construct stub outs to allow for connections to development in the future.

A "stub out" is a road segment constructed to connect a development to a neighboring property to allow for future vehicular and pedestrian trips between the properties.

<u>Required Connection to Stub Outs</u>: If a new development is built which abuts a VDOT maintained stub out, the street network of the new development must connect to this stub out for its streets to be eligible for acceptance into the secondary system.

<u>Stub Out Construction for Future Developments</u>: The creation of stub out streets at appropriate points in new developments is encouraged. Such stub outs promote the connection of adjoining developments and will result in a more efficient street network.

<u>Location of Stub Outs</u>: In the event that a developer selects to construct a stub out, the local official and VDOT staff can assist in this process. The developer and local official should first discuss if the potential location is reasonable for a future connection. The location of the stub out must be feasible for the future connection to an adjacent land use. While this process will be a collaborative effort, the final decision regarding the suitability of a potential stub out location will be the role of the VDOT staff, during the plan review process.

Additional Requirements for Stub Out Streets:

1. Stub outs should not exceed 500 feet in length
2. Stub outs will be constructed to the property line
3. The applicant will post a sign meeting VDOT's standards at the end of the stub out. This sign will:
    - State that the purpose of the stub out is for a future street connection
    - Be easily visible to adjacent properties and persons using the newly constructed streets

Failure to Connect to a Stub Out Street: VDOT encourages the connection of publicly maintained stub outs whenever financially and physically feasible. There may be instances when either a developer or the local government selects not to connect stub outs. When a development is not connected to an existing VDOT maintained stub out and the local governing body approves the development plan and requests that VDOT accepts the corresponding secondary streets, there will be a financial consequence to the local government for this action. In these situations, VDOT will automatically add the "missing" connection of this stub out as the Commissioner's top priority for expenditure of improvement funds for the locality's six-year plan for secondary highways.

This alternative to stub out connection provides the local government with the option of allowing the developer to fund and construct a connection to the existing stub out or having the secondary road allocations being used to construct the development's connection. In order to safeguard public funds, it is critical that such stub out connections for subdivisions and developments be approved if the design makes such connection feasible. Providing connections between publicly maintained streets in neighboring developments at the time of initial construction is more cost effective and sustainable than relying solely on projects to widen major highways.

Stub Out Street Connections: When connecting to existing stub outs, especially those stub outs which are excessively wide compared to current design requirements, care must be taken so that such streets do not encourage excessive speed. Generally speaking, for short extensions of stub outs that will tie into other roadways in the new development, no special measures need to be taken. On the other hand, if the stub out will become a lengthy section of street, traffic calming techniques such as bulb-outs can be employed to limit vehicle speed. The designer and reviewer need to employ good professional judgment with regards to appropriate measures to control speed. In addition to reduced street widths and design speed, the designer and reviewer may apply traffic calming strategies included in VDOT's "Traffic Calming Guide for Local Residential Streets."

In the event that the existing grade of the parcel being developed is inconsistent with adjacent property, the developer of the initial stub out and corresponding pedestrian facilities should grade appropriately to accommodate the future connection of the stub out and the sidewalks. It is the responsibility of this first developer to ensure a proper grade with which to continue the stub out and sidewalk.

d. Connectivity Index – Explained and Calculated

A number of localities across the nation as well as the state of Delaware have implemented "connectivity index" requirements for new street construction. A connectivity index can be used to calculate how well a roadway network provides direct and alternative routes for drivers and pedestrians to reach their destinations. It is a uniform, quantifiable measure of the transportation alternatives provided to travelers.

Computing the index for a given development involves a calculation:

Connectivity Index = Streets Segments ÷ Intersections

The key to successfully calculating the connectivity index is determining exactly what constitutes a "street segment" and an "intersection." The SSAR defines these two terms as follows:

- Street Segment – A section of roadway or alley that is between two intersections or a stub out or connection to the end of an existing stub out.
- Intersection – A juncture of three or more street segments, or the terminus of a street segment, such as a cul-de-sac or other dead end. The terminus of a stub out shall not constitute an intersection for the purposes of this chapter. The juncture of a street with only a stub out, and the juncture of a street with only a connection to the end of an existing stub out shall not constitute an intersection for the purposes of this chapter, unless such stub out is the only facility providing service to one or more lots within the development.

The above are general definitions. The following descriptions may also be helpful in determining exactly what constitutes a street segment and an intersection.

<u>Street Segment:</u>

1. Any roadway, alley, and stub out
2. Any street section between intersections and termini
3. At each connection to an existing road maintained by VDOT, there will be street segments that extend from the intersection of the new road and the existing road. Each of these sections will count as a street segment in the index calculation.

Intersection:

1. A juncture of three or more street segments
2. The terminus of a street segment, such as a cul-de-sac or other dead end, will count as an intersection. The end of a stub out does not count as an intersection.
3. A stub out's connection with a road, with no direct lot access along the stub out, and that is intended for connection to an existing or future adjacent development does not count as an intersection
4. The connection of a stub out with an internal street will count as an intersection if the stub out street provides access to a lot(s) within the development
5. External connection of an existing state road does count as an intersection. The street sections at this intersection also count as street segments, as discussed above.

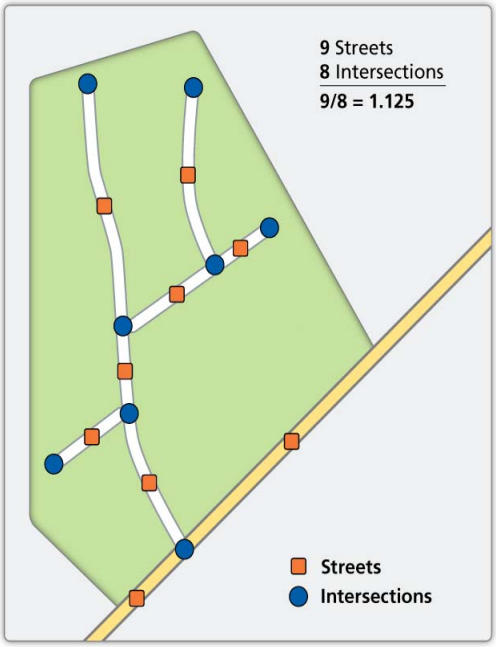
The connectivity index is found by dividing a network addition's street segments by its intersections. An example of this would be a development with fifteen street segments and ten intersections. The subdivision would have a connectivity index of 15/10 or 1.5. It is important to remember that the intent of the regulation is for developments to meet the connectivity index through connections to adjacent properties.

Required Multiple Connections

One of the requirements of the SSAR is that all developments will have multiple connections in multiple directions. This requirement is for all three area types, including Compact, Suburban, and Rural. This is a "standalone" requirement that must be met regardless of the connectivity index requirement that may apply to a particular development.

Connections, in this context, means either joining with an existing street in the VDOT network or the construction of a stub out(s) planned for current or future connection. It is important to note that a proposed network addition with only one ingress and egress point, with no stub out for future connection, and that meets the applicable connectivity index will not be accepted into the state system as it does not meet the overall connectivity standards contained in the SSAR. The examples below help illustrate the goals of the connectivity standards and the types of networks that meet these requirements.

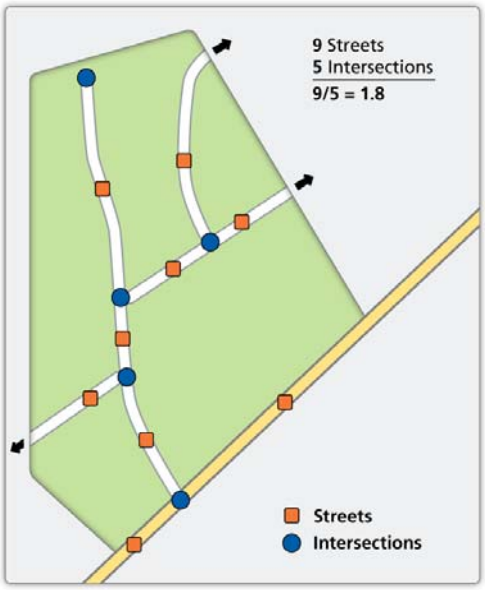
Figure 3 – Connectivity and Multiple Connections

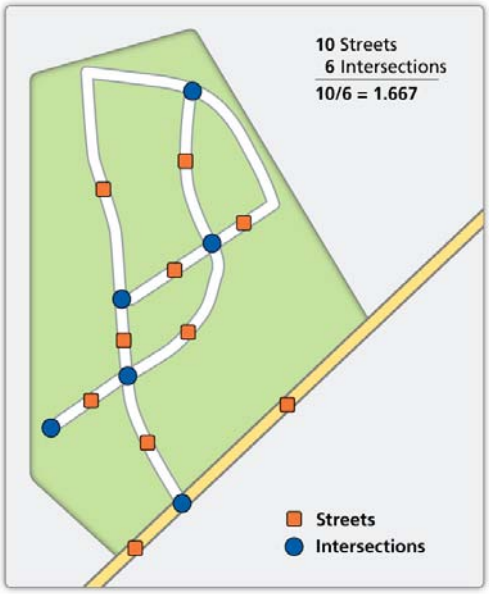


The development with a street network as shown to the left would need to add additional connections to adjacent properties, stub outs, or connections to the existing network to be accepted into the state system. This development does not meet the connectivity index for Compact and Suburban area types as well as the "multiple connections" requirement.

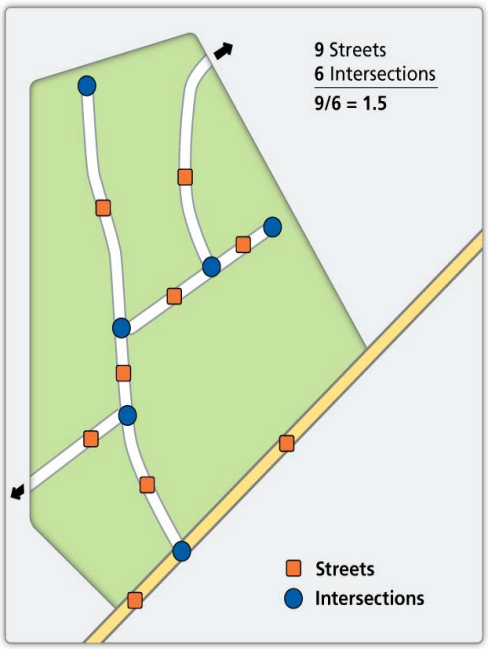
Figures 4 and 5 – Compact Area

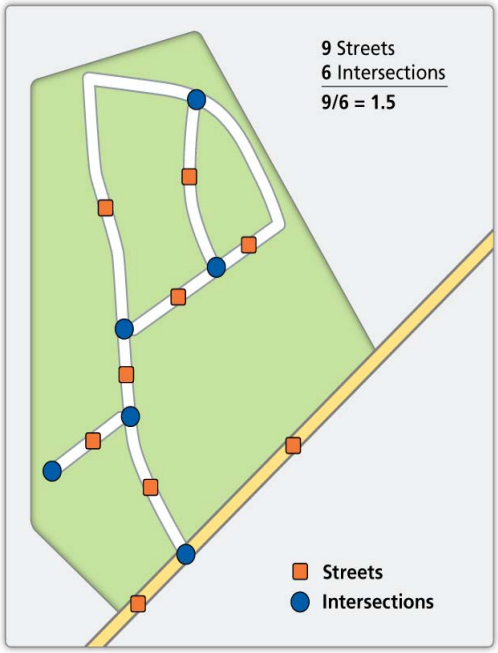
In the Compact area type, the development above would need to extend three of the planned streets to allow for future connections with adjacent properties. The example on the left would meet this requirement. However, the example on the right, without additional connections to adjacent properties or the existing network, would not meet the "multiple connections" requirement even though it has an index higher than 1.6.





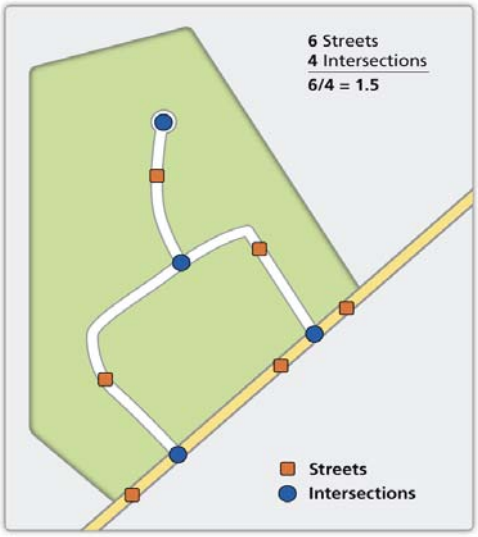
Figures 6 and 7 – Suburban Area



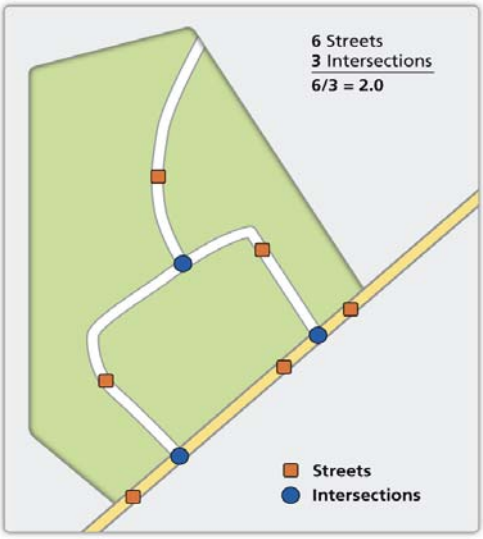


The example on the left meets the connectivity requirements for the Suburban area type. It has a connectivity index higher than 1.4 and three connection points located in multiple directions. The example on the right, with only one ingress and egress point, would <u>not</u> meet the requirements for the Suburban area type even though it has an index higher than 1.4. If a stub out was constructed, the "multiple connections" requirement would be satisfied.

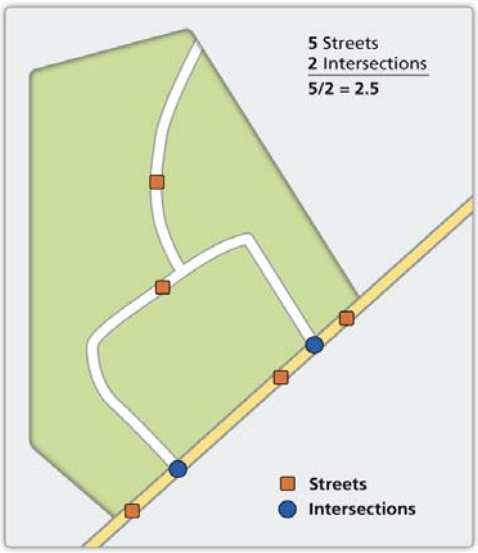
Figures 8, 9 and 10 – Stub Outs and Connections in Multiple Directions



The example to the left has a connectivity index high enough for the Suburban area type, but it does not meet the "multiple connections in multiple directions" requirement. While it does have two connections to the existing street, these connections are in the same direction. Therefore this design would not meet all of the connectivity requirements.



The cul-de-sac from the previous situation has been extended and constructed as a stub out. This design has three connections in two directions. The intersection of the stub out and the new development road is considered as an intersection in the connectivity index because lots located along the stub out can only be accessed via the stub out (see the next situation for a different layout). This design would be acceptable in both of the Compact and Suburban area types.



This is very similar to the previous situation with one important exception. The stub out does <u>not</u> provide direct access to lots along the street. For this reason the intersection with the stub out and the newly constructed development street does <u>not</u> count as an intersection. This results in a higher connectivity index. This layout would be accepted in the Compact and Suburban area types.

Figure 11

This site plan example has:

- Eleven street segments
- Six intersections
- Connectivity Index of 11/6 or 1.83
- This site plan includes a stub out to the right of the development; its terminus does not count as an intersection
- The terminus of the cul-de-sac does count as an intersection; therefore, the end of the cul-de-sac includes an intersection symbol
- With relation to its connectivity index and multiple connections in multiple directions requirements, this site plan would be acceptable in both the Compact and the Suburban area types. This development would also be acceptable in the Rural area type, which does not have a connectivity index requirement.

e. Connectivity Index Standards – Area Types and Network Additions

As discussed within the "Area Type Threshold" section of this document, the state is divided into three area types: Compact, Suburban, and Rural. Most streets within a phase of a development or an entire development will be considered for acceptance into the state system as a group, or "network addition." Streets under certain circumstances may still be accepted as individual streets.

Compact Standard – Network Additions

Network additions within a Compact area of the state must meet the following requirements to be accepted into the secondary street system:

1. Constructed to all applicable standards, such as the Road Design Manual, the Subdivision Street Design Guide, and all other documents incorporated by reference within the SSAR
2. Provide adequate connections to adjacent roadways, with multiple connections and in multiple directions, and have a connectivity index of at least 1.6
3. Contain a layout design suitable for pedestrian movement within the development and to adjoining properties

Suburban Standard – Network Additions

Network additions within Suburban areas must meet all of the "Compact" requirements, but with a different connectivity index amount. Suburban area type developments must be designed to have a connectivity index of at least 1.4.

Rural Standard – Network Additions

Rural network additions must meet all applicable design requirements and provide multiple connections in varied directions to adjacent properties. Rural area type developments do not need to meet a specific connectivity index amount. This means that at a minimum, Rural area type developments will be required to connect with the existing VDOT network as well as provide a second connection to the existing network or a stub out in a direction different than the other connection.

Connectivity Index and Individual Streets

Newly constructed roads to be accepted into the VDOT system, which meet the "individual street standards" located within the Compact and Suburban area types, are not required to meet a specific connectivity index standard. These standards are discussed on page 23 of the SSAR and on page 29 of this Guidance Document.

f. Connectivity Exceptions Due to Physical Constraints (Page 24 and section 30-92-60 within the SSAR)

Connectivity standards can be difficult to meet due to certain physical constraints. The regulation contains a streamlined exception procedure to address these circumstances. The procedure takes place at the beginning of the development process so that developers and local governments will know the requirements and the standards that apply as they begin to design their development.

Properties that are bordered by physical impediments make external connectivity difficult and consequently the connectivity index standards difficult to meet. In these instances, VDOT has created exceptions for which applicants do not need to request approval; rather, they may follow a simple administrative process.

The following impediments constitute physical constraints that automatically qualify for a reduced connectivity index:

1. Railroad tracks
2. Limited access highway
3. An existing navigable river or a standing body of water with a depth greater than 4 feet under normal conditions
4. Grades greater than 20%
5. Government owned property with restrictions upon development such as military installations, pre-existing parks, and land under conservation easements accepted by the Virginia Outdoors Foundation

Connectivity index exceptions for "physical constraints" will be submitted to the District Administrator's designee. It is the responsibility of the developer to submit such information for review in writing and also submit all pertinent documentation which supports the exception due to a physical constraint(s). The developer should submit this information to the designee during the conceptual sketch plat submittal process.

The amount for which the connectivity index is reduced depends upon the percentage of the property's perimeter which is contiguous with one or more of the above five impediments. The following describes this calculation and gives applicable examples for the Compact and Suburban area types:

Compact Area Constraint Exception Example –

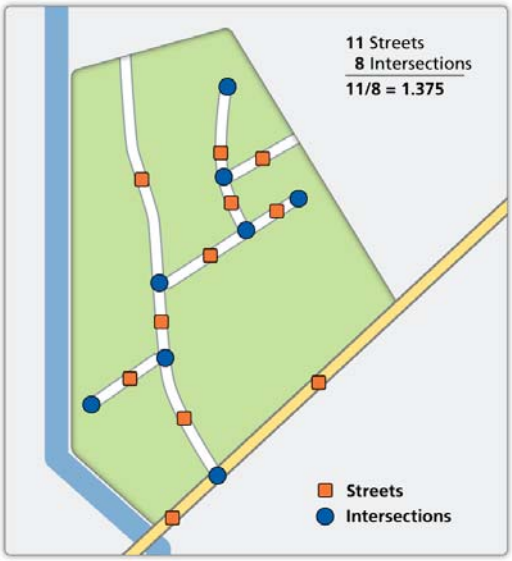
- Reduce the connectivity index by 0.6 times the percentage of the perimeter adjacent to one or more of the above impediments in Compact areas
- Example:
    1. 30% of the perimeter of a proposed development is bordered by an interstate
    2. 30% x 0.6 = 0.18
    3. Reduce the Compact Area type's required 1.6 connectivity index by 0.18
    4. This development would be required to meet a 1.42 connectivity index
    5. This 1.42 figure would be reviewed by the District Administrator's designee and not be required to follow an appeals process

Suburban Area Constraint Exceptions Example –

- Reduce the connectivity index by 0.4 times the percentage of the perimeter adjacent to one or more of the above impediments in Suburban Areas
- Example:
    1. 45% of the perimeter of a proposed development is adjacent to a river
    2. 45% x 0.4 = 0.18
    3. Reduce the Suburban Area's required 1.4 connectivity index by 0.18 giving a connectivity index standard of 1.22

Figure 12 – Connectivity Physical Constraint Exception

In the example below, a river borders one-third of the border preventing connections to neighboring developments.



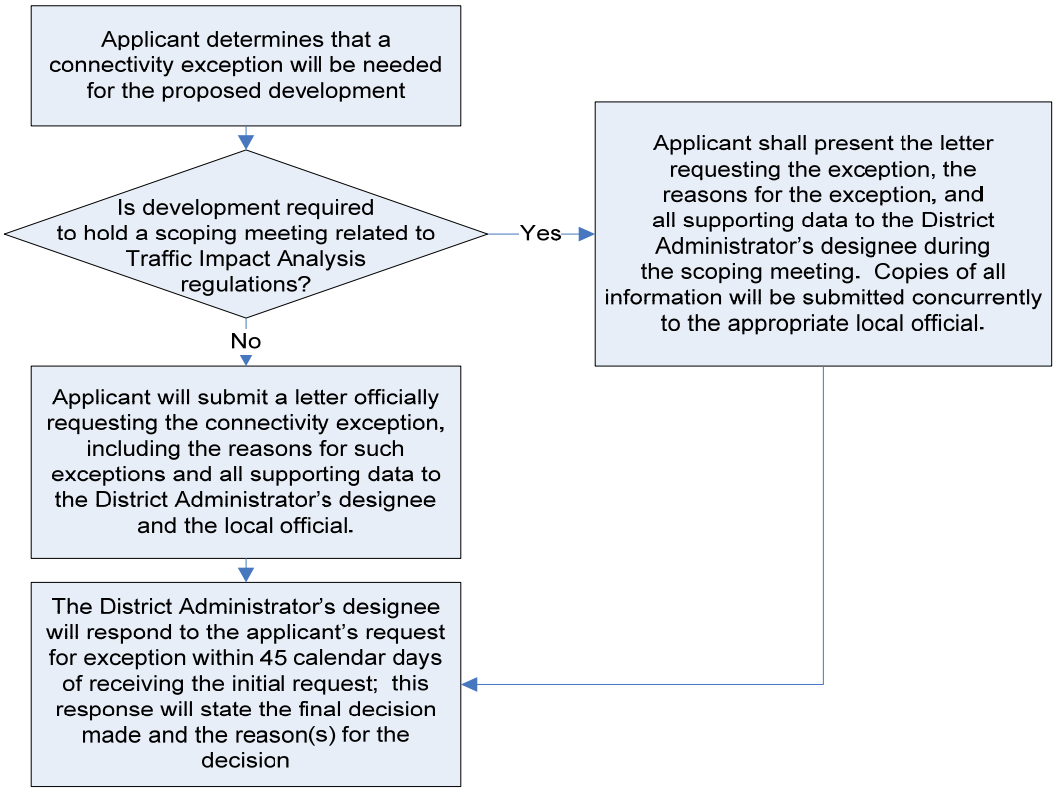
The developer would be able to automatically reduce the connectivity requirements by the proportion of the development bordered by a constraint. The connectivity index requirement for this development, located in the Suburban area type, would be revised from 1.4 to 1.27.

g. Appeals to Connectivity Requirements

Appeals to connectivity requirements not addressed through the automatic reductions for physical constraints will be submitted to the District Administrator's designee for review and consideration. The applicant will also provide a copy of this letter to the local official responsible for reviewing the development plan. The District Administrator's designee will respond to the exception request within 45 calendar days of the request being made. The designee can reduce connectivity requirements for one of the following reasons:

- The locality's comprehensive plan designates the adjoining property as an incompatible use. If this occurs, the development will be required to provide a stub out(s) to accommodate future growth if the adjacent use or the Comprehensive Plan changes. When such an appeal is requested, the local official must submit supporting documentation to VDOT that confirms that such adjacent, incompatible land uses exist.
- Connectivity requirements cannot be met due to unique characteristics of the subject parcel being developed such as jurisdictional wetlands or cluster subdivisions developed under §15.2-2286.1.

With relation to the interpretation of the term "incompatible uses," retail, office, and residential uses are all defined as being compatible with each other. For example, if an applicant is proposing a new subdivision adjacent to a commercial establishment, this will <u>not</u> constitute neighboring incompatible uses. The following chart describes the District Administrator's connectivity appeals process:



h. Conflict Between the Connectivity Requirements and Access Management

There may be instances where VDOT's Access Management regulations and the connectivity requirements of the SSAR conflict. If a conflict occurs, the following will apply:

- Collector Streets - When the connectivity requirements can only be met through a connection to a collector street that would conflict with the Access Management spacing standards and additional connections to lower order roadways and stub outs are not possible, the entrance spacing standards will be modified by the District Administrator to allow for the connection.
- Minor Arterial Streets - When the connectivity requirements can only be met through a connection to a street with a functional classification of minor arterial that would conflict with the Access Management spacing standards and additional connections to lower order roadways and stub outs are not possible, the District Administrator will either modify the applicable spacing standards to allow for such connection or modify the connectivity index requirement.
- Principal Arterial Streets - When the connectivity requirements can only be met through a connection to a street with a functional classification of principal arterial that would conflict with the Access Management spacing standards and additional connections to lower order roadways and stub outs are not possible, such developments will have the connectivity requirements modified to accommodate the inability to make this addition connection.

2. Individual Street Standards, Network Additions, and Connectivity

Within the "Connectivity" section of the SSAR (page 23), the regulation states that roads to be accepted into VDOT's system which meet the "individual street standards" are not required to meet the connectivity index.

In order for a road to meet the "individual street standard," it must be connected to an existing street within the VDOT system or to an existing city, town, or publicly maintained county street and will need to meet one or more of the following requirements:

a. Provide a connection between at least two existing publicly maintained streets that were part of the VDOT network prior to the building of the proposed development
b. Have a functional classification of "collector" or higher
c. Is a frontage or reverse frontage road as defined by VDOT's Access Management regulations
d. Is a street to be accepted into the secondary system of state highways through the Rural Addition program addressed in §§ 33.1-72.1 and 33.1-72.2 of the Code of Virginia provided the street was constructed prior to January 1, 2009
e. Is a street to be accepted into the secondary system of state highways through the Commonwealth Transportation Board's Rural Addition Policy provided the street was constructed prior to January 1, 2009
f. Is a road built for economic development purposes related to §33.1-221
g. Is a road built for public recreation and/or historical purposes pertaining to §33.1-223

3. <u>Pedestrian Accommodations</u> (Page 44 and section 30-92-120 within the SSAR)

The legislative goal related to connectivity applies to pedestrian traffic as well as vehicular trips. This goal is to ensure "the connectivity of road and pedestrian networks with the existing and future transportation network."

To meet this goal, VDOT has amended its requirements for pedestrian accommodations including as sidewalks and trails. These standards are generally based upon density. Other factors such as proximity to public schools, area types, and the functional classification of streets can also impact the pedestrian accommodation requirements. Pedestrian accommodation standards are required only along newly constructed streets and network additions associated with the development. All SSAR related pedestrian accommodations within the right-of-way must meet Americans with Disabilities Act requirements.

There may be instances regarding pedestrian accommodations when multiple requirements will apply to a given street. In these situations, the greater accommodation requirement shall apply.

<u>Pedestrian Standards</u>

a. Higher Density Developments

In the pedestrian accommodations context, "higher density developments" are defined as those with:

- Median lot size of one half acre or less, or
- Floor area ratio (FAR) of 0.4 or greater

For these developments, pedestrian accommodations must be provided on both sides of the street or alternate provisions that provide equivalent pedestrian mobility.

The District Administrator's designee will make the determination as to what would constitute "equivalent pedestrian mobility." Variables which the designee must evaluate include:

- Ease of access to lots and properties within the development
- Ease of access to adjoining properties and existing pedestrian accommodations
- Square footage of the developer's "equivalent" proposal as compared to the area of providing sidewalks on both sides of the street
- Pedestrian safety and exposure to vehicle traffic

b. Medium Density Developments
For the purposes of pedestrian accommodation requirements, medium density is defined as developments which include:

- Median lot size greater than one half acre but no larger than two acres

Medium density developments must provide pedestrian accommodations along at least one side of the street or an equivalent pedestrian mobility system. If the developer seeks to construct "equivalent" accommodations, the process is the same as discussed within the "high density developments" section above.

c. Low Density Developments
Developments which have median lot sizes greater than two acres are not required to construct pedestrian accommodations unless a subsection below requires the building of such facilities.

d. Developments near Public Schools
Regardless of lot size or floor area ratio, there are unique pedestrian accommodations required when developments are located near a public school facility and located in the Compact and Suburban area types. This distance is:

- Within one-half centerline mile of a public school as measured by centerline roadway mileage.

These developments will be required to provide pedestrian accommodations along at least one side of the street or provisions made that provide equivalent pedestrian mobility. For developments which are required to meet the "high density" standards described in subsection (a) above, pedestrian accommodations must be located on both sides of the street. When a developer constructs pedestrian accommodations related to this subsection, such accommodations will only be required along newly built streets associated with the development. Pedestrian accommodations are not required to be built to the school property unless the development extends to the school.

e. Stub Out Connections and Pedestrian Accommodations
Developers are required to plan and construct subdivisions and developments to connect to the existing stub out streets within adjacent properties. In instances where the stub out has accompanying pedestrian accommodations, the newly constructed street will be required to provide similar pedestrian accommodations. The District Administrator's designee will make the determination as to what will constitute "similar" in these situations.

f. Collector and Arterial Roads with Two Lanes
Collector and arterial roads which contain two through lanes must meet the following requirements:

- Sidewalks shall be located on at least one side of newly constructed streets to be maintained by VDOT
- Sidewalks may be located immediately adjacent to the street only if they are at least eight feet wide. Tree wells must also be provided in these circumstances.
- Retrofitted streets being upgraded to meet VDOT standards can have sidewalks less than eight feet in width if right-of-way is not available to meet the current standard

g. Collector and Arterial Roads with Three or More Lanes
Collector and arterial roads with three or more through lanes must be designed in the following manner:

- Sidewalks shall be located on both sides of newly constructed streets to be maintained by VDOT
- Sidewalks may be located immediately adjacent to the street only if they are at least eight feet wide. Tree wells must also be provided in these circumstances
- Retrofitted streets being upgraded to meet VDOT standards can have sidewalks less than eight feet in width if right-of-way is not available to meet the current standard

h. Connections with Adjacent Parcels
All newly constructed developments which are adjacent to existing pedestrian accommodations must connect to these sidewalks, paths, or trails. Such accommodations shall connect with existing pedestrian accommodations and allow for connection to future pedestrian accommodations to adjacent parcels. In the event that a developer is constructing a pedestrian accommodation stub out, it is the responsibility of the developer to properly grade the parcel in order to make the connection with a future pedestrian accommodation feasible to the subsequent developer's land.

i. Multi-use Trails/Shared Use Path Criteria
Pedestrian accommodations are usually located within the street's right-of-way. If these facilities meet all of VDOT's related requirements, the agency will accept and maintain these accommodations. Sidewalks will be constructed in accordance with the Subdivision Street Design Guide, while bicycle facilities and shared use paths shall be built in accordance with VDOT's Road Design Manual.

In some instances, pedestrian accommodations may be located outside of the street's right-of-way. The agency will not maintain pedestrian accommodations located outside of its right-of-way. In these circumstances, VDOT will enter into an agreement with the locality which will describe how the locality will maintain the pedestrian accommodations. In these situations VDOT will only enter into agreements with the subject locality.

j. Noncompliant Pedestrian Accommodations
Pedestrian accommodations which are not built to VDOT standards will be considered noncompliant. Such accommodations will not qualify for maintenance unless a design waiver or exception is granted by VDOT. If noncompliant pedestrian accommodations are located within the dedicated right-of-way of the street, a land use permit must be issued by the District Administrator's designee to the local governing body unless a design waiver or exception is granted. The permit will directly state the parties' responsibility for maintenance of the accommodations. The permit applicant must be an entity that can assure ongoing maintenance. This entity is commonly, but not limited to, the local government.

k. Pedestrian Accommodations and VDOT Right-of-Way
In order for VDOT to maintain pedestrian accommodations, these facilities must be located within VDOT's right-of-way. In the event that a developer constructs accommodations outside of the right-of-way, VDOT would enter into an agreement with the locality. This agreement will discuss how the locality will maintain the accommodations. A dedication or easement would be given to the locality for the maintenance of the accommodations on private property.

4. Public Service Requirements, Individual Streets and Network Additions
(Page 19 and section 30-92-60 within the SSAR)

a. Public Service Requirement Criteria
In order for VDOT to accept a proposed street into its system, each phase of a development or network addition must meet the approved "public service requirements." In general, each street needs to meet the minimum requirements.

If a developer is unsure if a potential development or phase meets these requirements, the developer is encouraged to contact the local VDOT district office to verify that the standards have been met.

For example, VDOT will not accept a street into its system if it only serves one dwelling unit because that would traditionally be considered a driveway. To be considered for inclusion into VDOT's secondary street network, additions must meet one or more of the following criteria:

1. Serves three or more occupied units with a unit being defined as one of the following:
   - Single-family residence
   - Owner-occupied apartment
   - Owner-occupied residence in a qualifying manufactured home park. Streets serving manufactured home parks may only be considered when the land occupied by the manufactured home is in the fee simple ownership of the residents of such manufactured home
   - Stand-alone business or a single business entity occupying an individual building or similar facility
2. Constitutes a connecting segment between two streets that meet one of the public service requirements or are existing publicly maintained streets
3. Stub out street
4. Serves as an access to schools, churches, public sanitary landfills, transfer stations, public recreational facilities, or similar facilities open to public use

5. Serves at least one hundred vehicles per day generated by an office building, industrial site, or other similar nonresidential land use in advance of the occupancy of three or more such units of varied proprietorship. In such instances, a developer will submit traffic count data to verify this one hundred figure that exists prior to the location and occupancy of the three or more units. Any addition under this provision shall be limited to the segment of a street that serves this minimum projected traffic and has been developed in compliance with these requirements.
6. Included in the network of streets envisioned in the transportation plan or element of a locality's Comprehensive Plan that, at the time of acceptance, serves an active traffic volume of at least one hundred vehicles per day
7. Multifamily, townhouse and retail shopping complexes meeting the following requirements:
   - A through street that serves a multifamily building may be considered for maintenance it is deemed by the department to provide a public service and provided it is well defined and the District Administrator's designee determines that it is not a travel way through a parking lot
   - Entrance streets and the internal traffic circulation systems of retail shopping complexes qualify if more than three property owners are served and the street is well defined and separated from the parking areas.

b. Network Additions

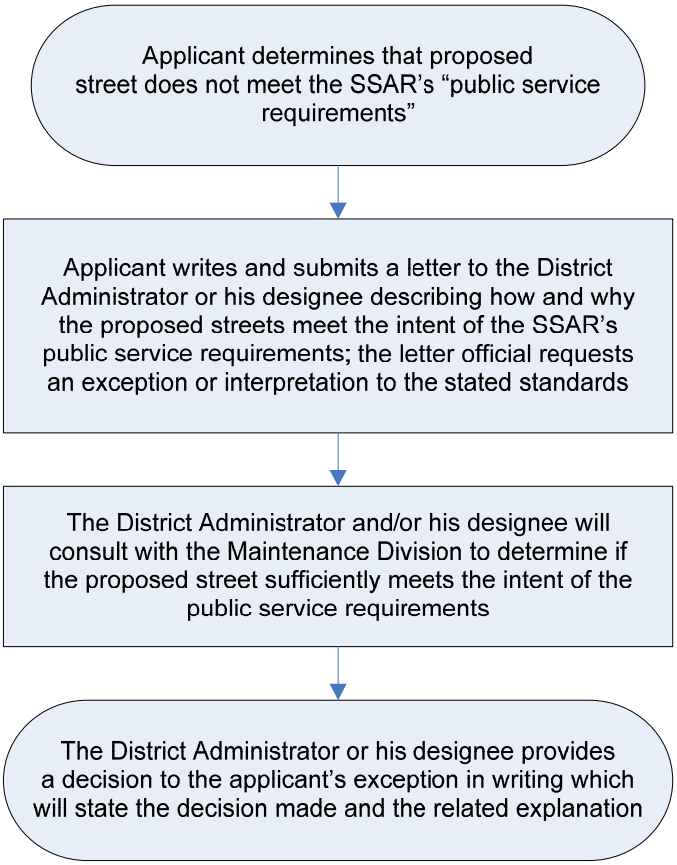
Network additions qualify for acceptance into VDOT's secondary system if each street within the addition meets at least one of the "Public Service Requirement" criteria listed above for an "individual street." Such additions will be considered to provide adequate public service if each street within the addition meets one or more of the requirements for "individual streets" listed above.

c. Special Exceptions to Public Service Requirements

In the event that a developer is unsure if the proposed streets and development meet the specific public service requirements listed above, the developer may submit a request for clarification in writing to the District Administrator's designee.

There may be situations in which an applicant's proposed street(s) or network addition(s) does not specifically meet the public service requirements of the SSAR, but do meet the general intent of the regulation. In these circumstances, the applicant's request for clarification may actually be a request for a special exception. The chart below describes this process.

Special Exceptions Process



D. Context Sensitive Street Design (Page 30 and section 30-92-120 within the SSAR)

The SSAR modifies the agency's previous design standards through a number of requirements. These "context sensitive street design" standards involve engineering methods to promote traffic calming results within a more connected and efficient street network. These methods include reduced street widths, flexible parking requirements, and best management practices related to stormwater management.

Context sensitive design is discussed on page 52 of the Guidance Document and begins on page 39 of the SSAR regulation. The design requirements are included in the Appendix B(1) of the Road Design Manual.

E. Third Party Inspection (Page 62 and section 30-92-140 within the SSAR)

One new feature to VDOT within the SSAR is the creation of an alternative to the traditional agency inspection process. There are numerous instances when developers prefer to use private third party inspection firms to conduct VDOT required construction inspections and testing. Generally these third party firms are utilized to better accommodate the developer's schedule and construction phasing.

VDOT has produced its "Secondary Street Inspection Manual" to assist the development community with required inspection processes and testing. Third party inspection procedures are discussed in this Inspections Manual. The fees associated with third party inspections are included on page 60 of the Guidance Document.

3) Plans Governed by the SSAR

A. Applicability, Effective Date, and Transition (Page 10 and section 30-92-20 within the SSAR)

The purpose of the SSAR is to provide regulations for the planning, design, development, and acceptance of newly constructed roads intended to be maintained by VDOT and taken into the agency's secondary street network. The SSAR, along with other corresponding VDOT documents such as the Road Design Manual, provides the minimum criteria for streets to qualify for addition to the secondary system.

The effective date of the SSAR is the day which it was filed with the State Registrar of Regulations. This took place on March 9, 2009. The period from the SSAR effective date to July 1, 2009 is the transition period for the SSAR. During this period, developers may submit qualified plans to VDOT which follow the requirements of either the Subdivision Street Requirements or the SSAR. Beginning on July 1, 2009, all complete plats and plans initially submitted to the local government and to VDOT must meet the requirements of the SSAR.

B. Grandfathering (Page 11 within the SSAR)

The purpose of the "Grandfathering" section is to establish which plats and plans will be governed by the previous requirements of the Subdivision Street Requirements versus the SSAR.

There are four categories of plats and plans that will be governed by the Subdivision Street Requirements:

1. Developments with proffered street network layouts that were approved/accepted by the local governing body prior to the effective date of the SSAR. This proffering would have involved receiving all required zoning approvals from the local governing body in order to construct the proposed development. In order for this category to be utilized, the layout of the streets as proffered must be binding and cannot be modified through the site plan or subdivision plat process.
2. Streets included within a recorded plat or valid final site plan prior to July 1, 2009
3. Valid preliminary plat, construction, site, or final plans approved prior to July 1, 2009 may follow the Subdivision Street Requirements regulations for up to five years or longer if the plat/plan remains valid under all applicable laws
4. Street construction plans approved by VDOT prior to July 1, 2009

The applicant may select to follow the provisions of the SSAR, rather than those of the Subdivision Street Requirements, for the four types of grandfathered plats and plans listed on the previous page. In the event the applicant chooses to abide by the SSAR regulations, this decision should be communicated to the local government official and VDOT staff prior to the submittal of the development's plat or plan.

Locality Acceptance of Conceptual Sketch Plat

In the event that the developer submits a complete conceptual sketch plat that is accepted by the locality prior to July 1, 2009, the locality may request that the proposed development be grandfathered. In this context, a "complete" conceptual sketch plat means that at a minimum the plat includes all of the elements required under subsection 24VAC30-92-70 of the SSAR (listed on page 41 of this Guidance Document). Such plat shall meet the requirements of the previous Subdivision Street Requirements.

Area Type Modifications and Grandfathering

As discussed previously, the SSAR divides the state into three distinct area types - Compact, Suburban, and Rural (area types and relevant standards are discussed on page 8 of this Guidance Document). The area type boundaries are fluid as they are based on long-term planning boundaries that will change over time. As planning boundaries are amended, the area type boundaries will change.

There may be instances where a development has proceeded through the development approval process and the area type boundaries of the locality are changed prior to the streets of the development being accepted into the state system. In this situation, the regulation contains provisions that would allow for the acceptance of these streets using the connectivity standards of the area type in which the development was located when it received its plat or plan approval. The following describe these different categories:

1. Developments with a street design proffered prior to modification of area type may comply with the former area type requirements for up to ten (10) years after acceptance of the proffered conditions. In order for this category to be utilized, the layout of the streets as proffered must be binding and cannot be modified through the site plan or subdivision plat process.
2. Streets included within a recorded plat or final site plan approved prior to the area type modification may follow the requirements of the previous area type for five years or longer if the plat/plan is still valid under all applicable laws (this reference to "applicable law" primarily refers to §15.2-2261 which pertains to how long this type of plat or plan is valid and how to extend this period)

3. Preliminary plats approved before area type modification may follow the requirements of the former area type for a period of five year or longer if the plat is still valid under all applicable laws (this reference applies to §15.2-2260 which relates to valid time periods for preliminary plats)
4. Approved construction plans may follow the requirements of the former area type for up to five years

Special Note regarding "Modified Area Type" Plats and Plans -
The above four plat and plan types also provide the applicant with a choice regarding which area type regulations the development will follow. At the end of each plat and plan description above, there is a statement which reads:

"However, such streets may be considered for acceptance under the modified applicable area type at the discretion of the developer."

The effect of this statement is that the applicant may design the development using either the former or the newly modified area type requirements. This decision is solely at the discretion of the applicant. It is the responsibility of the developer to inform VDOT and the local official of the area type requirements to which the development will be designed and constructed. The local government will provide VDOT with all pertinent information, approvals, and appropriate resolutions or ordinances. The developer should submit the intended area type to be used to the VDOT staff member at the time the conceptual sketch is submitted.

C. Local Subdivision Ordinances (Page 15 and section 30-92-30 within the SSAR)

If a locality administers a land development related ordinance which includes regulations different than the SSAR and the local regulations do not conflict with the SSAR, those local requirements will be applied to new developments.

D. Continuity of the Public Street System (Page 15 and section 30-92-40 within the SSAR)

Continuity of VDOT's transportation network is a simple but crucial concept when a developer is planning the construction of a new street. Streets intended to be built to VDOT standards and maintained by the agency must be connected to an existing street within the VDOT system or joined to an existing city, town, or publicly maintained county street. Without this connection, there is not continuity of the street network and the addition or individual street will not be accepted by VDOT into its system for maintenance.

4) <u>SSAR Review and Approval Processes</u> (Page 28 and section 30-92-70 within the SSAR)

There are specific processes which must be completed in order for proposed developments to be accepted into VDOT's secondary street system. These requirements and processes are dependent upon the type of plat or plan being submitted. The following sections will describe these processes and the primary requirements for each.

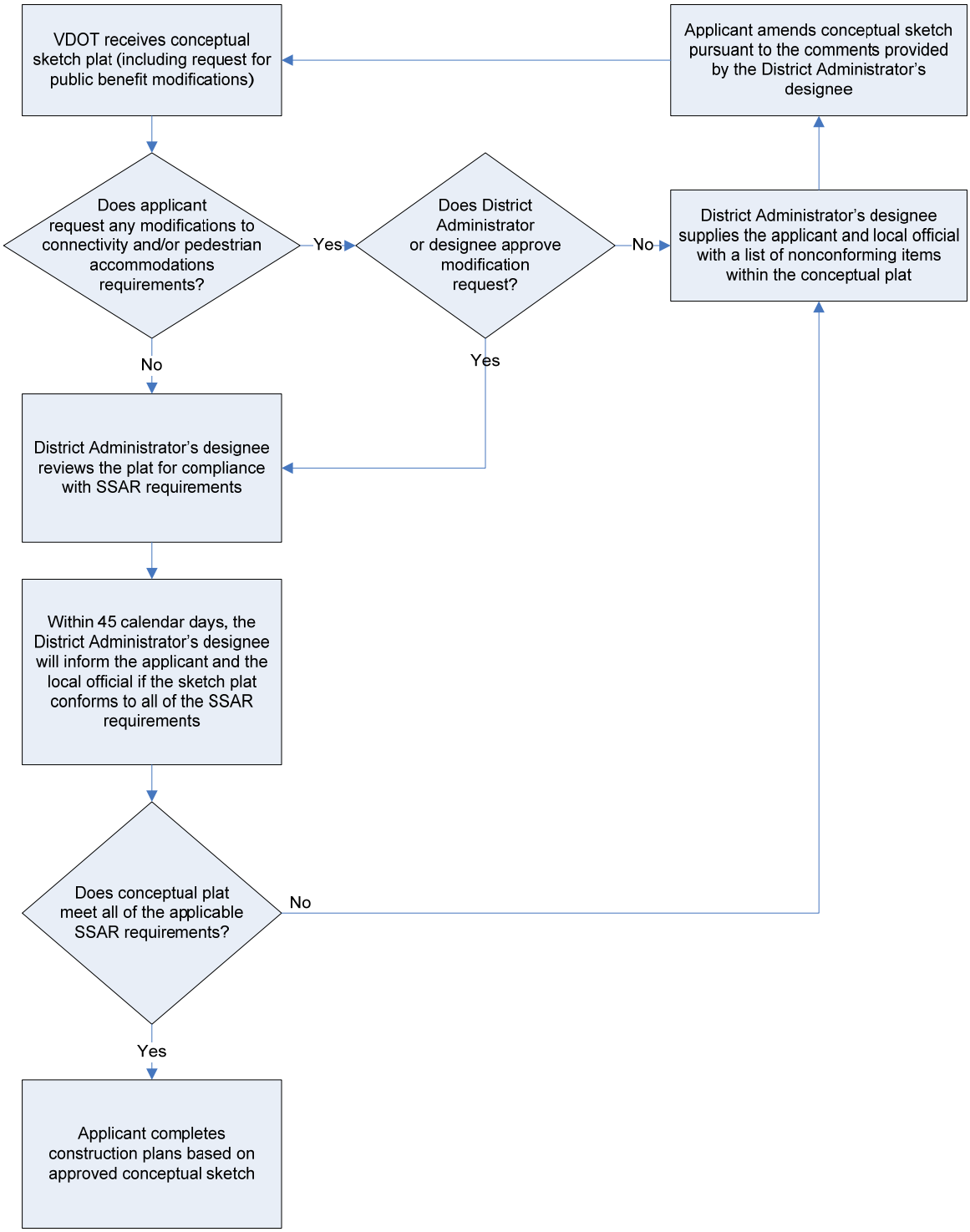
A. Conceptual Sketch Plat

The purpose of the conceptual sketch plat is for local officials and VDOT staff to review the proposed development for entrance requirements, basic street layout, street classifications, and the overall transportation facilities plan for the development. This plat should also include enough detail to determine the appropriate functional classification of the proposed street(s), the area type, and verify the calculation of the connectivity index and required pedestrian accommodations. The following information should be contained within the conceptual plat:

1. The general location, vicinity, and configuration of planned streets, including the terminus of each street and the traffic volume anticipated when the land served is fully developed for the proposed land uses;
2. The location, area, and density or FAR of each type of proposed land use within the development;
3. The general location of any proposed transportation facility including any public transportation facilities as well as bicycle and pedestrian accommodations within the development's boundaries included in the Comprehensive Plan of the governing body;
4. The proposed functional classification for each street in the development;
5. The area type and connectivity index of the network addition if applicable;
6. The location of stub outs on adjoining properties and the existing land use of the adjacent properties;
7. The location of any proposed stub outs within the development and if the stub out(s) will be used to access any lots in the development;
8. Any proposed reductions to the connectivity requirements related to 24VAC30-92-60 C.5.a (Connectivity exceptions due to physical constraints) and approved modifications to the connectivity requirement regarding 24VAC30-92-60 C.5.b (Connectivity exceptions reduced by the District Administrator);
9. Any requests for modifications to the connectivity requirement related to 24VAC30-92-60 C.5.b;
10. Preliminary information on the type of any proposed stormwater management facilities which are proposed to be located within the right-of-way as described in subdivision L 2 of 24VAC30-92-120; <u>and,</u>
11. Any other available information pertinent to the intended development.

Conceptual Sketch Plat Review Process

The following chart describes the process for the review and approval of a VDOT conceptual sketch plat.



B. Plan of Development Submission

The applicant will submit the pertinent development plans to the local government official as well as the District Administrator's designee. If availability allows, VDOT staff may review the plans for developments not intended to be accepted into the secondary system but are constructed to the SSAR requirements. In these situations, VDOT can recover the costs related to this review (see "Surety and Fees" section for more details).

C. Review and Approval Processes

Once plats and/or plans are received by VDOT, the District Administrator's designee will evaluate the documents to determine the appropriate reviews and related personnel required to analyze the proposed development. The designee will arrange for these reviews to be completed. The specific time requirements for VDOT to review plats and plans are included in §§15.2-2222.1 and 15.2-2260 of the Code of Virginia.

The designee will inform the local government official and the developer about the results of the reviews performed and if the plans were in compliance with all applicable VDOT regulations and any pertinent standards included in the regulations incorporated by reference in the SSAR. VDOT's approval of construction plans will expire five years after approval if construction has not started. The review process will result in either the finding that the plans are in compliance or that revisions will be required. The following describes the general processes for both possibilities:

<u>Plans in Compliance with Regulations:</u>

1. The VDOT designee will send a letter to the developer and the local government official which confirms that the plans are in compliance with applicable VDOT requirements
2. This letter denotes VDOT's approval of the street layout and design indicated and described within the submitted plans
3. Any subsequent revisions, additions, or deletions to the previous plans shall require specific written approval from the VDOT designee before the development can proceed

<u>Revisions Required to Submitted Plans:</u>

1. The District Administrator's designee will provide a written list of required changes to the local official and the developer
2. The developer will revise the plans to comply with all the items contained within the District Administrator's designee's letter, VDOT regulations, and all documents incorporated by reference within the SSAR
3. The developer submits revised plans to the local government official and the District Administrator's designee for subsequent review

D. Following Plan Approval

The District Administrator's designee letter constitutes VDOT's commitment to ultimately accept the proposed streets or network additions included within the approved plans when the roads are constructed to all applicable requirements. In the event that VDOT discovers or is informed that unapproved changes have been made during the construction phase, VDOT will assess whether these changes impact the eligibility of the road's future acceptance into the State Highway System. The VDOT designee will determine if the changes have a possible negative effect on public safety or the physical integrity of the roadway, right-of-way, adjacent property, or facilities governed by VDOT. If it is determined that the changes will have a negative impact or that the changes conflict with the provisions of the SSAR, VDOT may refuse acceptance of the street or network addition until the situation(s) is corrected

VDOT's approval of street construction plans expire five years after approval if construction has not begun (this period was three years in the Subdivision Street Requirements). If this time period has expired, the developer must resubmit the plans for subsequent reviews and approval.

E. Street Construction Inspections

Upon approval of the construction plan but prior to street construction, the District Administrator's designee should advise the applicant about the procedures for inspection of the construction phases and the scheduling of those inspections. VDOT approval of each of the following construction phases is highly recommended:

1. Installation of any enclosed drainage system before it is covered
2. Installation of any enclosed utility placements within the right-of-way before being covered
3. Construction of the cuts and fills, including field density tests, before placement of roadbed base materials
4. A final pavement design, based on actual soil characteristics and certified tests, shall be completed and approved before the pavement structure is placed
5. Placement of base materials, including stone depths, consistent with the approved pavement design, prior to placement of the paving course or courses, followed by field density and moisture tests and the placement of a paving course as soon as possible
6. Construction of pavement, including depth and density, upon completion as part of the final inspection

F. Street Acceptance Process

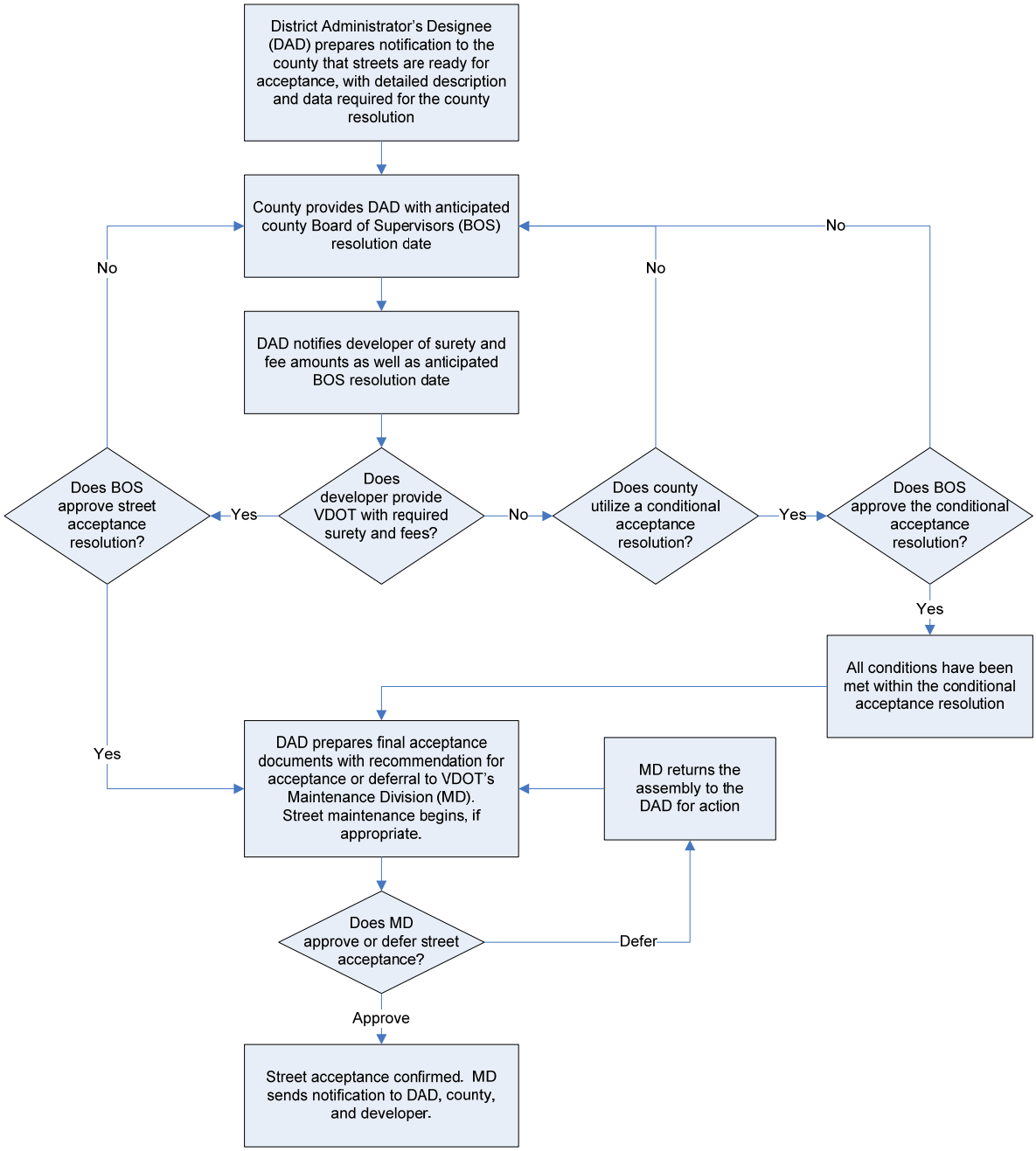
Following VDOT staff certification that the street(s) has been constructed in a manner compliant with all applicable regulations, VDOT will inform the local government of the agency's readiness to accept streets. The local governing body, in consultation with the designee, will initiate the street's acceptance into VDOT's secondary system, provided the following conditions are met:

1. The developer has dedicated the necessary public right-of-way to public use
2. All streets proposed for acceptance have been constructed to all applicable standards and are consistent with the plats and plans approved by VDOT
3. Streets meet the required public benefits included within the SSAR
4. All streets have been properly maintained since the completion of construction
5. All applicable sureties and fees have been provided
6. The local governing body has executed all agreements required by the SSAR or unless waived by the Director of VDOT's Maintenance Division
7. Through a properly written and administered resolution, the local governing body requests VDOT to accept the street(s) into the secondary street network. This resolution will include the governing body's guarantee that all appropriate rights-of-way have been dedicated, including all necessary easements for fills, drainage, and sight distance.

Following the completion of the above process and all applicable SSAR requirements, VDOT will notify the local governing body that the agency has accepted the street or network addition and its related effective date. This notification will also inform the designee that VDOT will now be responsible for maintenance of the street or network addition.

The chart on the following page outlines the street acceptance process.

Street Acceptance Process



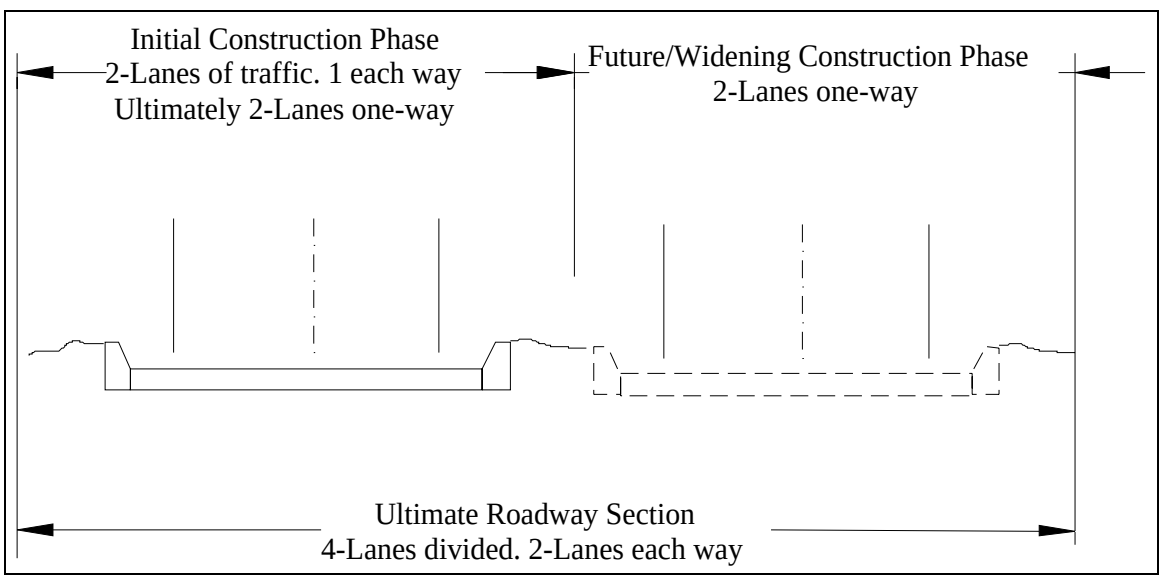
5) <u>Phased Development of Streets</u> (Page 34 and section 30-92-80 within the SSAR))

"Phased development of streets" can be defined as a street involving four or more travel lanes for which the developer requests that the planned lanes be constructed in phases to accommodate the projected future traffic volume. If this request meets all applicable criteria and requirements for the phased development of streets, the first lanes may be accepted for VDOT maintenance following initial construction (see details below for how many lanes may be accepted initially for maintenance). The acceptance of these first lanes must be requested by the local governing body.

The term "phased development" (of a street), sometimes called "half-section construction," relates to the construction of the overall street width, accomplished by an initial construction phase and a future widening construction phase, rather than the lengthening of a street via subsequent periods (phases) of construction, sometimes confused with the development of a subdivision through distinct build out or development phases. Only streets having a minimum of four or more through-traffic lanes are eligible for "phased development of streets."

Phased development allows an initial phase of construction (i.e. lanes 1 and 2 of a 4-lane ultimate cross section) to be completed as a two-way traffic facility that is accepted by VDOT for maintenance prior to the complete construction. The final or ultimate width (lanes) required to serve the greater traffic volume at full build out is accepted by VDOT in the future if all requirements have been met.

Example: Four lane divided roadway with lanes developed in two phases



Phased development of streets is a permissible alternative to requiring the complete cross section of the ultimate roadway to be built prior to VDOT's acceptance. However, unless formal written agreements shield VDOT financial resources and the obligations imposed by its responsibility to provide streets adequate to serve the public, VDOT could become responsible to complete construction (widening of the street to its full width and ultimate cross section) that is properly a responsibility of the developer or the local government responsible for controlling land development and the establishment of streets.

The entire right-of-way, required for the construction of all planned lanes, must be dedicated and accepted prior to the initial street acceptance. The manner in which the first phase of lanes are constructed must easily accommodate the building of the subsequent lanes resulting in minimal impact to traffic flow and will not negatively impact the integrity and quality of the first lanes built.

A. Criteria for Phased Development of Streets

The criteria for phased development of streets are divided into two categories: 1.) streets included in the locality's transportation portion of its comprehensive plan and 2.) all other streets. The following lists the requirements for both groups:

Proposed Streets within Comprehensive Plans – No special agreement or acknowledgement is required from VDOT to qualify the streets in this category if the proposed street meets all of the following criteria:

1. Must serve diverse areas of the locality or region, as opposed to primarily the vehicles associated with the complex
2. The proposed street is part of a planned transportation corridor that was formally adopted by the local governing body prior to the receipt of the development's conceptual plat
3. The planned corridor is primarily for through traffic as opposed to traffic internal to the development
4. The road must be classified by VDOT as a major collector or higher when fully developed
5. The projected traffic volume for the completed development, ten years after street acceptance, must be 8,000 vehicle trips per day or less; this projection must be submitted and include supporting documentation during the conceptual sketch plat process.

All Other Proposed Phased Development of Streets – The local governing body must approve a resolution accepting the initial two lanes and include acknowledgement of the following:

1. All costs associated with the completion of the streets shall be provided by sources not derived from state revenue administered by VDOT, unless specifically authorized by the agency
2. It is the local government's responsibility to ensure that the full roadway (all proposed lanes) is completed as planned and as needed to accommodate the anticipated traffic. The District Administrator's designee will determine if full completion of the street's additional lanes are required for the functional classification of the roadway in accordance with the Highway Capacity Manual.

B. Procedures for the Phased Development of Streets

Plans and plats related to the phased development of streets will follow the general processes contained within the "Administrative Procedures" section of the SSAR and will also be required to adhere to the following procedures:

1. Plats and plans for such development of streets shall depict all planned lanes and meet all applicable SSAR requirements as well as the standards contained within the documents incorporated by reference to the SSAR.
2. Plats and plans shall indicate and describe the phasing of all proposed lanes.
3. The initial phase of lane construction cannot result in the building of less than one half of the ultimately planned lanes. For example, if five lanes are ultimately planned, three lanes must be completed during the first phase for these lanes to be accepted for maintenance.
4. A capacity analysis must be submitted during the conceptual sketch plat process which describes how the initial phase of lane construction will adequately accommodate the level of service required for projected traffic. This requirement can only be waived by the District Administrator or the District Administrator's designee.
5. VDOT and the locality will consult and determine if the request for phased streets will be approved. If approval is granted, VDOT and the locality will also agree upon which criteria for phased streets shall apply to the street in question (included on page 34 of the SSAR).
6. In the event the development's plats and plans are compliant with all applicable SSAR regulations and the phasing of the street has been approved, the District Administrator's designee will approve the plans.
7. Following the street's initial phase of construction in accordance with the approved plan, the initial lanes may be accepted for maintenance by VDOT upon proper request from the local governing body.

6) <u>Connection to VDOT Maintained Streets</u> (Page 37 and section 30-92-90 within the SSAR)

All new connections to existing streets maintained by VDOT require a land use permit, regardless of land use type. Each connection is reviewed on an individual basis to determine the requirements and conditions relative to the permit.

VDOT recommends that the developer apply for the permit to allow adequate time for the agency to review and approve the permit. The application should be submitted to the District Administrator's designee and it should be consistent with all approved plats and plans for the planned development.

<u>Relocations, Adjustments, and Improvements of VDOT Streets</u>
All work performed within VDOT's right-of-way must be coordinated with and approved by VDOT staff prior to the commencement of such work. Related changes could include pavement widening, added turn lanes, realignments, and relocations.

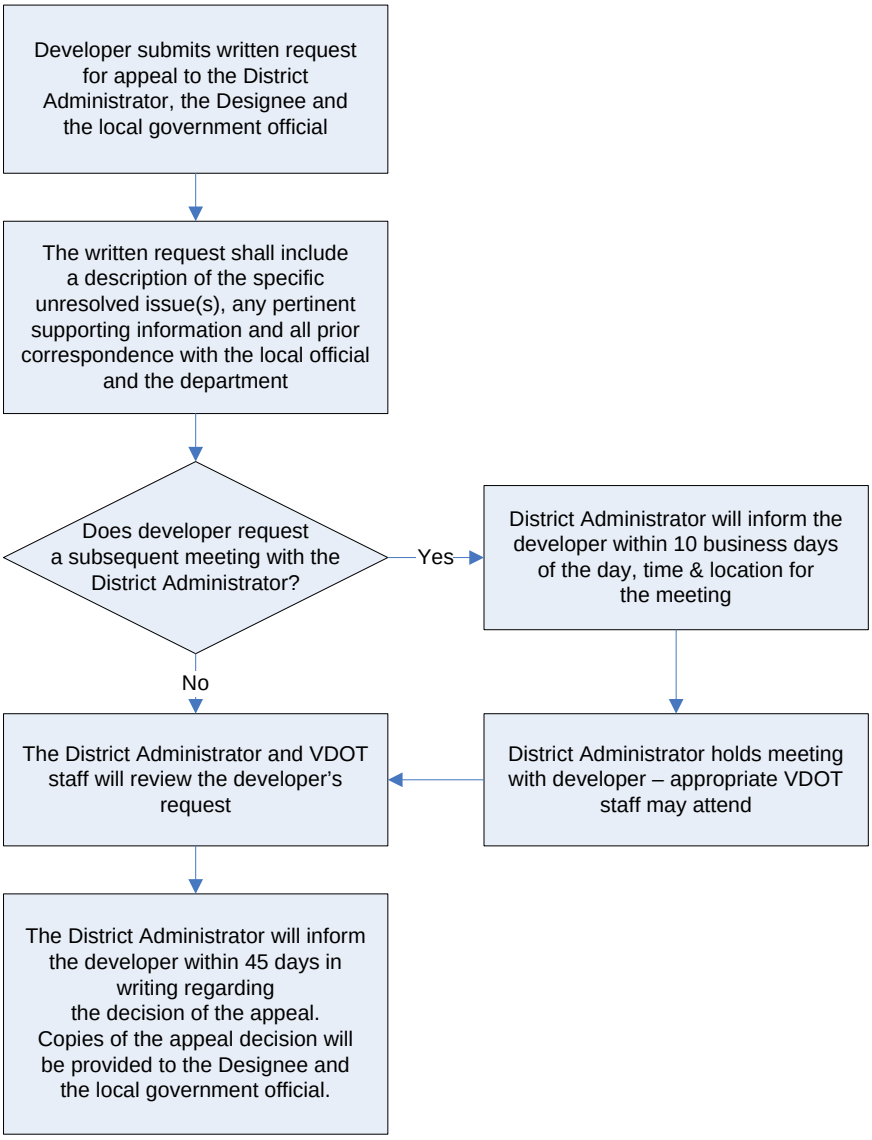
The following are the guidelines which such changes must comply:

1. Must be consistent with the approved land use permit issued by the agency following the dedication of appropriate right-of-way
2. All changes to VDOT maintained streets must meet pertinent agency regulations; these changes should include overlaying and restriping of the old and new portions of the road surface as required by the District Administrator's designee
3. Any relocation of an existing VDOT maintained street must have the consent of the local governing body
4. All vehicular and pedestrian traffic should be maintained on the existing street until the new street has been accepted by VDOT, unless the agency authorizes closure of the existing road to traffic
5. No actively used street shall be "abandoned" unless a new street serving the same citizens has been constructed and accepted by VDOT

7) <u>Exception Processes</u> (Page 38 within the SSAR)

A. Discretionary Authority (Page 38 and section 30-92-100 within the SSAR)
The purpose of section is to identify which individuals have the discretionary authority regarding different classifications of streets. With relation to streets classified as "local," it is the District Administrator's designee who has the authority regarding the design of these secondary streets. The District Administrators have discretion over the design of streets defined as "collector" or above.

B. Appeal to District Administrator (Page 38 and section 30-92-110 within the SSAR)
It is the responsibility of the District Administrator to review, consider, and rule upon unresolved differences which occur between the applicant and the District Administrator's designee related to the implementation of the SSAR and the other documents incorporated by reference into the SSAR. The following flowchart describes the appeal process:

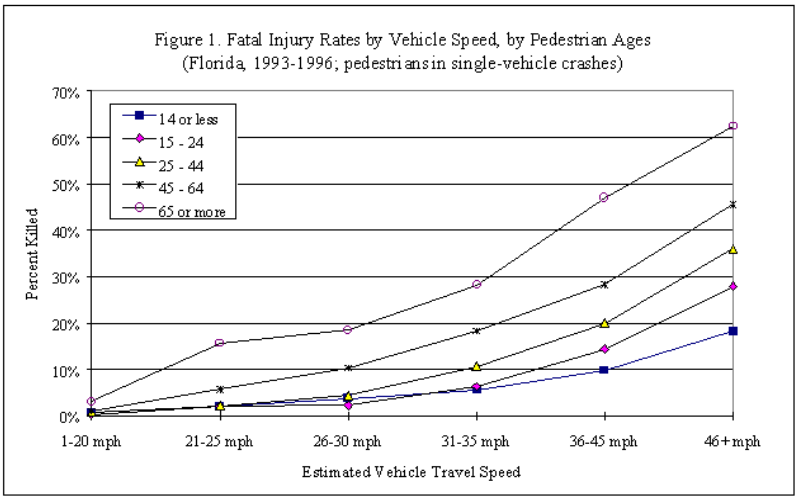


8) <u>Design Requirements – Context Sensitive Street Design</u> (Page 39 and section 30-92-120 within the SSAR)

The agency's previous Subdivision Street Requirements commonly included a standard street design width between 36 and 40 feet. These widths combined with local ordinance mandated off-street parking requirements often resulted in an effective local street lane width of 18 feet. Widths of this extent result in large impervious surface areas that exacerbate stormwater runoff and encourages higher vehicular speeds that are generally inappropriate in most areas.

Key elements in the implementation of the SSAR are the revised elements of the roadway's geometric design. The revised geometric design standards generally allow for narrower streets (24 to 29 feet wide for local streets) than were allowed in the past. These narrower street widths will play a significant role in reducing vehicle speeds through developments. Additionally, these narrower roadways will reduce the amount of stormwater runoff due to their smaller impervious area. While the streets are narrower, they meet the nationally accepted AASHTO minimum design standards for the design of roadways.

The direct link between speed and safety has been clearly drawn in many studies. Speed is a very important factor for determining the severity of crashes involving pedestrians. The National Highway Traffic Safety Administration has produced extensive findings in this area and has demonstrated compelling evidence of the importance of speed as it relates to injuries and fatalities among pedestrians. One such study's results (DOT HS 809 021 October, 1999), shown in the figure on the right demonstrate clearly the linkage between pedestrian injuries and fatalities and speed.



A study titled "Residential Street Typology and Injury Accident Frequency" by Swift, Painter, and Goldstein 2006 found a strong correlation between street widths and accident frequency suggesting that narrower streets in residential areas can result in safer operation than standard width local streets.

Additional key elements within the SSAR include added flexibility regarding parking requirements and placement of stormwater best management practices or devices (also known as low impact development techniques) within the right of way.

The SSAR contains numerous design and developer agreement requirements within this section. However, the majority of design criteria details can be found in VDOT's Road Design Manual. This section provides explanations of provisions new to the SSAR, as compared to the SSR.

A. Street with a Functional Classification of "Local"

All streets that are functionally classified as local will have a design speed equal to the posted speed limit. The exception to this requirement is for local streets with a projected traffic volume of 400 vehicles per day or less. For these lower volume streets, they may have a design speed less than the posted speed limit in order to facilitate an anticipated operating speed consistent with the speed limit to be posted.

B. Parking Requirements

The developer's decision to utilize on-street or off-street parking will impact the width of the development's streets. Specific street width requirements are contained within VDOT's Subdivision Street Design Guide (for local and sub-collector streets) and the other relevant sections of the Road Design Manual (all other streets).

Street layout and design that plans for limited or no on-street parking shall be approved only when sufficient off-street parking, usually two off-street parking spaces per dwelling unit, is provided consistent with the requirements of the SSAR. Off-street parking may be provided in a garage, parking bay, or other location outside of the street's right-of-way.

Street design that anticipates the limiting of on-street parking to only one side of the street will be approved when adequate off-street parking is provided for the development on the side of the street where parking is restricted. When street design anticipates unrestricted on-street parking, no off-street parking is required.

On an individual basis, the District Administrator's designee may approve lesser parking requirements for a development or classes of development than described above. In such situations, supporting evidence must be presented by the developer to support such a request on the basis of projected parking demand. Issues which may be considered include proximity to transit service or the nature and layout of the development.

C. Streets With On-street Parking

Perpendicular and Angle Parking Along Streets - This type of parking is generally prohibited. However, perpendicular and angle parking along streets may be allowed if such facilities meet specific design requirements within the Road Design Manual.

D. Streets With Off-street Parking
For streets designed for only off-street parking, at least two off-street parking spaces per dwelling unit shall be within close proximity of the subject dwelling unit. Such streets would be signed or designed in a way to discourage on-street parking. The parking spaces may be provided in a parking bay or garage facilities, and will be located outside of the street's right of way.

E. Local Parking Ordinances
A local governing body may have approved a parking ordinance which contains requirements which have lesser standards than those contained within the SSAR. In these situations, the local government's ordinance and regulations shall govern and be applied to the proposed development.

F. Collector and Local Roads with 35 MPH or Less
The agency will allow for on-street parking when such parking is located on roads classified as collector or local and where the posted speed limit is 35 miles per hour or less. Such roads must also be located within a Compact or Suburban area type.

G. Street Widths
Information on required street widths can be found in VDOT's Subdivision Street Design Guide and Road Design Manual.

H. Utilities
VDOT allows for underground utilities to be placed within the dedicated right-of-way of streets. VDOT prefers utility placement outside of the travel surface of the road, but under the pavement installations are permitted provided travel can be maintained while the utilities are being repaired.

When it is not practical to place utilities outside of the pavement area, such as in high density developments or within areas containing severe topography, underground utilities may be located within the roadway if they meet the following requirements:

- Located within the shoulders along the street or within the parking area
- Placed beneath the travel lanes of the street or alley when provisions are made to ensure adequate inspection and compaction tests and:
    - Longitudinal installations and manholes are located outside of the normal travel lanes, or
    - Longitudinal installations and manholes are placed in the center of a travel lane out of the wheel path.

I. Cul-de-sacs and Turnarounds

At the end of all cul-de-sacs, an adequate turnaround area will shall be constructed to allow for safe and convenient maneuvering by vehicles. Specific cul-de-sac and turnaround designs are illustrated in the agency's Subdivision Street Design Guide. Alternative turnaround configurations may be approved by the District Administrator's designee. When an alternative approach is approved and constructed, additional right-of-way may be required.

If a turnaround or roundabout includes a non-travel area, such area must be included in the dedicated right-of-way unless the agency and the locality are able to reach an agreement for the maintenance of such non-traveled areas.

Stormwater management facilities may be located within the non-traveled area of a cul-de-sac if they meet all of the requirements within the Drainage section of the SSAR located on page 51 of the SSAR.

J. Curb and Gutter

There are no requirements in the SSAR for streets to be constructed using curb and gutter. In the event streets are built with curb and gutter, such construction shall be required to meet the standards contained within the Road Design Manual and the Subdivision Street Design Guide.

K. Private Entrances

As with curb and gutter, all private entrances shall be required to meet the standards contained within the Road Design Manual and the Subdivision Street Design Guide.

L. Roadway Drainage

VDOT's primary reference document which details the requirements for roadway drainage is the Drainage Manual.

Devices within the VDOT Right-of-way – Stormwater management devices and treatments are generally located outside of the VDOT right-of way. However, these devices may be placed within the right-of-way if the department and the local governing body have executed the agreement for the maintenance of such facilities. These mandatory agreements must include the following language:

1. Acknowledgement that the department has no responsibility or liability due to the presence of the devices or treatments
2. Assures the burden and costs of inspection, maintenance, future improvements to the devices and treatments, or other costs related to the placement of such devices or treatments within the right-of-way are provided from sources other than those administered by the department
3. A statement from a Virginia licensed professional engineer or the manufacturer of the device that certifies the construction of the facility to plans reviewed by the department; and
4. The device, treatment, or concept of the facility is included in the department's Drainage Manual, the Department of Conservation, or the Department of Conservation and Recreation's Best Management Practices (BMP) Clearinghouse website. The BMP website is updated on a continuing basis and will include current information.

   Any drainage device located outside of the right-of-way will be designed to prevent the backup of water against the roadbed. If the development activity results in increased runoff to the extent that adjustment of an outfall facility is required, such adjustment shall be at the developer's expense and shall be contained within an appropriate easement.

   Municipal Separate Storm Sewer System Compliance – VDOT is required to implement and comply with the Municipal Separate Storm Sewer System (MS4) permit requirements for facilities located on its right-of-way. To comply with these requirements, the local governing body shall provide all aspects of a proposed development's stormwater management system that are pertinent to the locality's or the agency's MS4 permit. This information shall be submitted to the District Administrator's designee as a condition of street acceptance.

9) <u>Right-of-Way Requirements and Related Processes</u> (Page 58 and section 30-92-130 within the SSAR)

Prior to the acceptance of any street network or individual street, VDOT must have a clear and unencumbered right-of-way. In the event that there is an easement which could interfere with this unencumbered use, the street shall be the subject of a quitclaim deed prior to the issuance of a land use permit. This situation often occurs in conjunction with utilities within VDOT's right-of-way.

A. Width of Right-of-Way

The required width of the VDOT right-of-way is included within the agency's Subdivision Street Design Guide in the Road Design Manual. The right-of-way shall be broad enough to accommodate all VDOT maintained assets such as pedestrian facilities and safety recovery zones.

B. Widening of Existing VDOT Roads

In the event that a VDOT street is to be widened, additional right-of-way should be dedicated in the following manner:

1. If the existing right-of-way includes a prescriptive easement, the right-of-way shall be dedicated from the centerline of the road.
2. All additionally required right-of-way shall be dedicated to public use.
3. If the existing right-of-way is titled in the name of the agency or the state, the additional right-of-way will be titled in the same manner.

C. Spite Strips

Spite strips are narrow sections of land which restrict the access to adjacent properties. VDOT will not approve or accept streets or rights–of–way that contain spite strips.

D. Encroachment Within the Right-of-Way

At the time a developer records a plat, the fee simple interest of the right-of-way is dedicated to public use and the interest is transferred to the local governing body. Any object which is located in the right-of-way and which is a non-VDOT, non-transportation device encroaches on the right-of-way and will be considered unlawful. Exceptions to this policy include posts, signs, walls, or ornamental objects which do not interfere with the roadway and do not conflict with VDOT regulations or the Code of Virginia. Such objects may only remain in the right-of-way if they are approved by VDOT and the owner obtains a land use permit. An exception to the above encroachment involves mailboxes that are constructed with breakaway posts; such objects can be located in the right-of-way without the issuance of a land use permit.

10) <u>Surety and Fees</u> (Page 59 and section 30-92-140 within the SSAR)

It is the responsibility of the developer to guarantee the quality of construction and the performance of the streets that are intended for VDOT acceptance for maintenance. The developer is required to follow all of VDOT's construction and inspection procedures in order for the newly constructed streets to be accepted into the secondary system. In conjunction with the SSAR, VDOT has developed an Inspections Manual to guide the development community through the inspections and testing processes. The developer will provide the following:

1. Surety to warranty proper construction of the street,
2. Inspection fee to fund VDOT's direct costs to inspect the new street for acceptance, and
3. Administrative processing fee to recover the review and acceptance processing costs related to the development.

Sureties and fees will be based upon the date the local governing body requests that the new street(s) be accepted by VDOT for maintenance. The above sureties and fees are determined by the type of inspection completed. The four types of inspections include:

1. VDOT standard inspection
2. Local government administered inspection program
3. Third party inspection
4. VDOT intense construction inspection program equivalent to a third party inspection

A. Surety

Only developments which are reviewed using a standard VDOT inspection method, pursuant to 24 VAC 30-92-140, B, 1, will pay the traditional surety. It is the responsibility of the developer to ensure the performance of the street constructed. To warranty the quality of the roadway, the developer will provide a surety to VDOT. The developer is required to supply the agency with the appropriate surety within thirty days of the local governing body's resolution requesting that VDOT accept the newly constructed street(s). In the event that the developer does not submit proper surety to the agency within the proper time frame, the development's final construction inspection will be voided and a new inspection shall be required.

Acceptable forms of surety include the following:

1. Performance Bond – Held by VDOT until expiration
2. Cash Deposit – Held and deposited by VDOT but does not accrue interest
3. Certified Check - Held by and deposited by VDOT but do not accrue interest
4. Irrevocable Letter of Credit – Held by VDOT
5. Third Party Escrow Account – Executed by VDOT until expiration. Under no circumstances shall VDOT, the Commonwealth, or any other state agency be named the escrow agent.
6. Other surety mutually acceptable to VDOT and the developer

Amount and Length of Surety

Surety is only required when the "VDOT standard inspection" is utilized. The surety amount is:

- $3,000 for each tenth of a lane mile, and any portion thereafter.

For example, a two lane road that is 1.08 mile would have a surety of:

- Two lanes x 1.08 miles = 2.16 miles x 10 (tenths of per mile) = 21.6 tenths (rounded up to 22)
- 22 times $3,000 per lane mile = $66,000

The Commonwealth Transportation Board (CTB) has the ability to adjust this amount on an annual basis. This amendment of the surety amount would be based upon changes in the producer price index for street construction materials. The surety amount cannot be greater than $5,000 per tenth of a lane mile.

Length of Surety for Standard VDOT Inspection

The surety will guarantee the performance of the street construction for a period of one year. This period will begin from the date of the street's acceptance into the state system.

Rural Addition, Economic Development, Public Recreation, and Historical Site Streets

Streets entering VDOT's secondary system pursuant to the following Code of Virginia sections and related uses, will have the corresponding surety and fees waived:

- Rural Additions - §§33.1-72.1 and 33.1-72.2
- Economic Development projects - §33.1-221
- Public recreation and historical site streets - §33.1-223

B. Alternatives to Surety

Surety will be waived for street acceptance when there is an approved third party inspection, a VDOT intense inspection, or a local government inspection program in place and utilized.

Third Party Inspections –
Within the SSAR, VDOT created an alternative to traditional agency inspected streets. This new inspection process will provide greater flexibility to the development community. Third party inspections are included in section 24 VAC 30-92-140, 2, c on page 62 of the SSAR.

In order for a third party to inspect new secondary streets, the following requirements must be met:

1. Developer must contract with a licensed inspection firm not related to or affiliated with the developer or contractor.
2. Inspection procedures, testing methodology, and frequency of inspections are completed in accordance with VDOT Materials Division's Manual of Instructions and the Virginia Department of Transportation Road and Bridge Specifications.
3. A report must be submitted to VDOT which summarizes the inspections steps completed, certification of the results of inspection, and confirmation that the streets were built to the approved specifications and pavement design, signed, and stamped by a Virginia licensed professional engineer.

When the third party inspection alternative is utilized, the applicable surety shall be waived and the street inspection fee is reduced by 75%.

Localities with Street Construction Inspection Programs
If a locality has a comprehensive street construction inspection program that is approved by VDOT, no surety is required. This program is discussed in section 24 VAC 30-92-140, 2, a on page 61 of the SSAR.

Following the approval of such an inspection program by VDOT, the agency will certify localities as able to inspect newly constructed streets within their boundaries. In these instances, the surety shall be waived if the local governing body certifies that the new street or addition has been constructed consistent with the approved plans and specifications. The surety shall be waived and the street inspection fee is reduced by 75% when this inspection method is utilized.

VDOT Intense Construction Inspection Program – At the request of the developer, VDOT may perform the construction inspection equivalent to that required for third party inspection of any street or streets proposed to be added to the secondary system of state highways. VDOT inspections are contingent on the availability of appropriate VDOT staff. This type of inspection is discussed in section 24 VAC 30-92-140, 2, b on page 62 of the SSAR. The following shall apply when this inspection method is utilized:

- The developer will cover all costs incurred by VDOT
- The surety shall be waived

C. Administrative Cost Recovery Fee

The purpose of the Administrative Cost Recovery Fee is to recover a portion of VDOT's direct costs related with the review of plats and plans. It also will cover the administrative processing of the acceptance of new streets.

The fee will be required from the developer when the streets are accepted or when the county requests VDOT acceptance. The following equation will be used to calculate the cost recovery fee:

- Base rate of $500 per addition regardless of street length
- Plus $250 per tenth of a centerline mile or any portion thereafter

Alternatives to Administrative Cost Recovery Fee – VDOT administers three alternatives to its Administrative Cost Recovery Fee. These alternatives are discussed in section 24 VAC 30-92-140, C, 2 on page 63 of the SSAR. As an alternative to the Administrative Cost Recovery Fee, VDOT can use one of the following methods to recover its direct administrative costs:

1. The developer may request that VDOT establish an account for the purpose of tracking the related administrative costs. The developer will be billed no more frequently every 30 days.
2. For large, complex, and multi-use developments, VDOT may require that an account be established for the purpose of tracking the administrative costs and bill the developer not more than every 30 days. VDOT staff will determine which developments will qualify for this type of billing. The cost recovery fee assessed under this section shall not be greater than two times the agency administrative cost recovery fee structure. Therefore, this alternative rate will not be greater than a base rate of $1,000 per addition and $500 per tenth of a centerline mile.
3. For streets not intended for maintenance by VDOT, the agency may establish an account for the purpose of tracking these costs and bill the developer not more often than every 30 days.

D. Street Inspection Fee

In order to recover a portion of VDOT's direct costs associated with the inspection of new streets, an inspection fee shall be paid by the developer at the time the streets are accepted by the agency. Street inspection fees are discussed within section 24 VAC 30-92-140, D on page 64 of the SSAR. This inspection fee shall be computed as follows:

- Base rate of $250 per addition, regardless of street length
- Plus $125 per tenth of a centerline mile or portion thereafter

Third Party Inspection and County Administered Inspection Programs
The Street Inspection Fee shall be reduced by 75% if either a third party inspection process or a county administered inspection program is used.

Streets Not Intended for VDOT Maintenance
If requested to provide inspection services for subdivision streets that are not intended for maintenance by the department, VDOT may establish an account for the purpose of tracking these costs and bill the developer not more often than every 30 days.

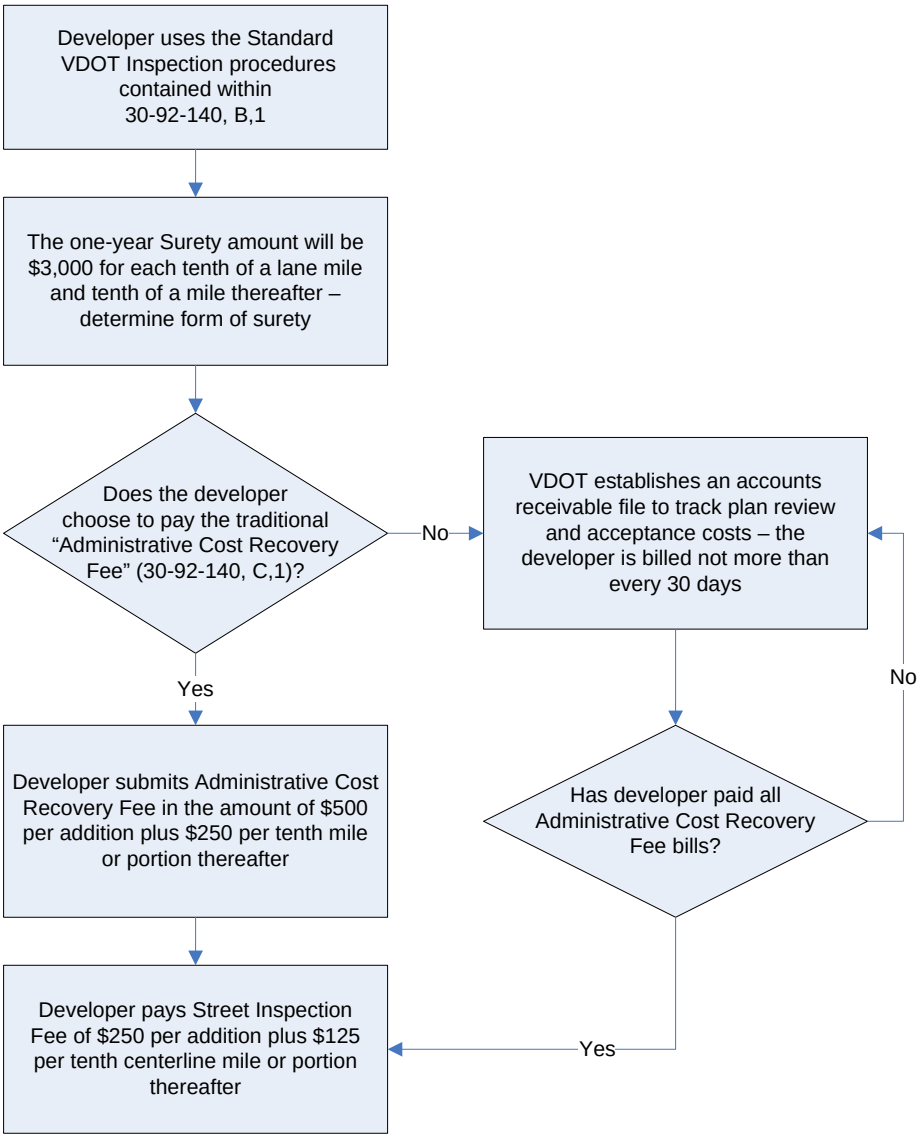
E. Inspection and Fees Flowcharts

The following flowcharts display the four major types of street inspections and related fees. Theses inspections include:

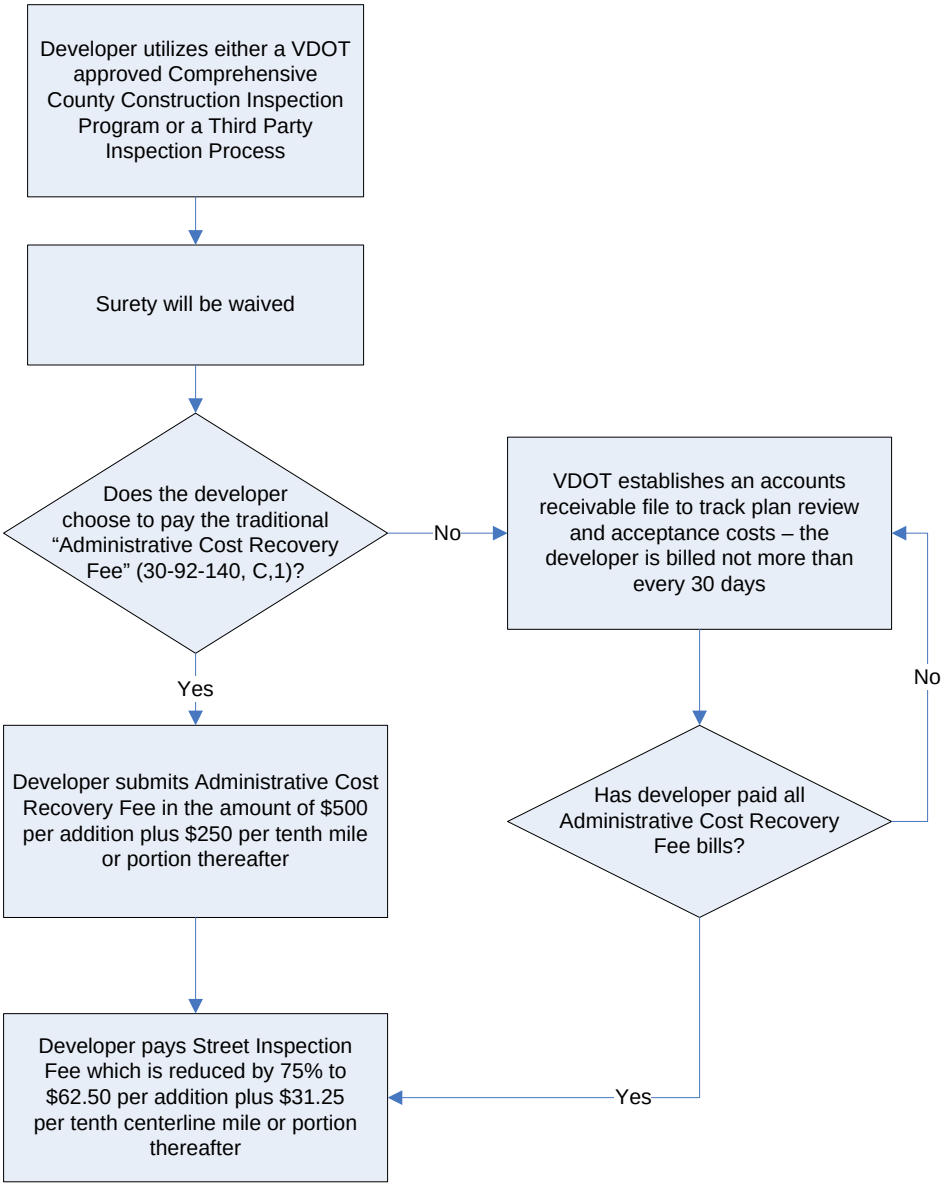
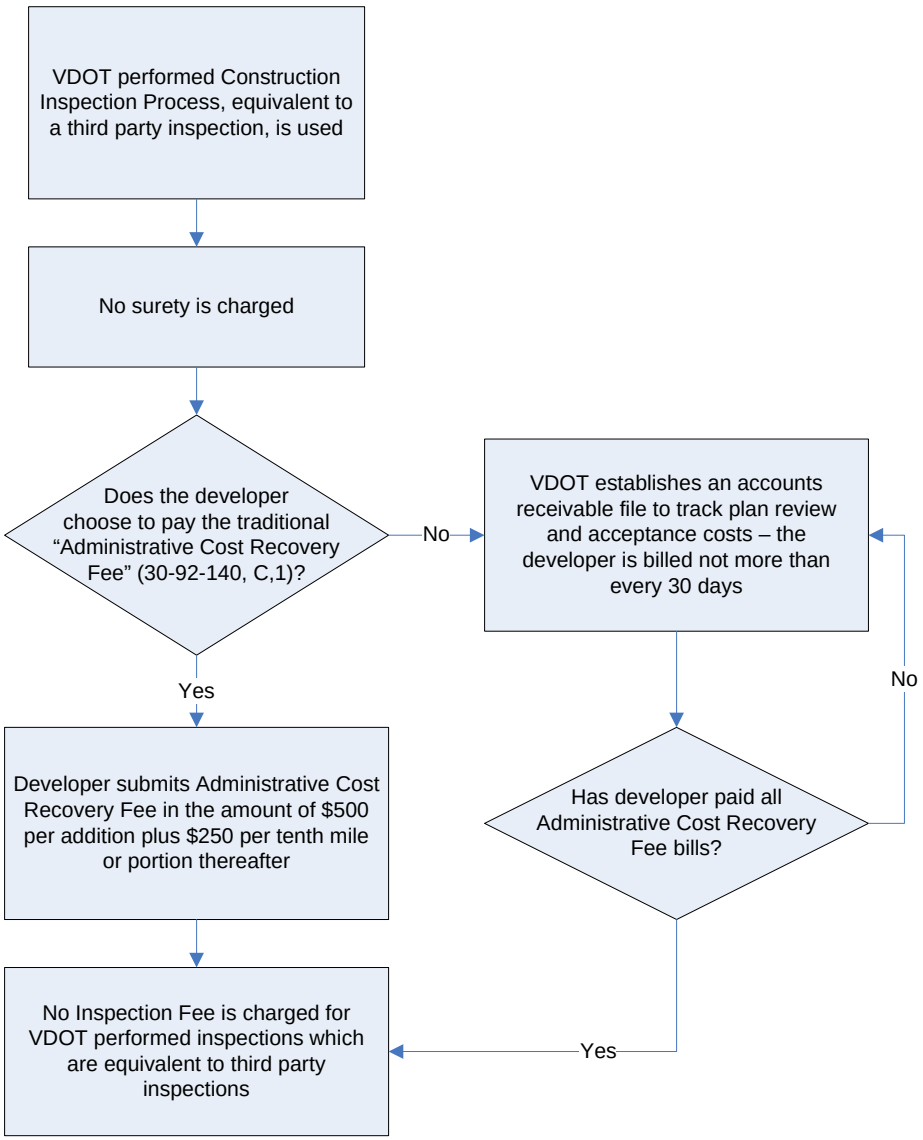
1. VDOT standard inspection
2. Third Party inspection
3. Local government administered inspection program
4. VDOT intense construction inspection program

VDOT Standard Inspection

This type of inspection is included in section 24 VAC 30-92-140, B, 1 of the SSAR and is included on page 60 of the regulation.



<u>Comprehensive County Construction Inspection Program and Third Party Inspection Process</u> – These two types of inspections can be found at section 24 VAC 30-92-140, 2, B, 1, subsections "a" and "c." This is listed on page 61 within the SSAR regulation.



<u>VDOT Intense Construction Inspection Program</u> – This is the VDOT administered program which is equivalent to a third party inspection. This type of inspection is discussed in section 24 VAC 30-92-140, 2, "b" on page 62 of the SSAR.