

VIRGINIA DEPARTMENT OF TRANSPORTATION

TRANSPORTATION PLANNING AND MOBILITY DIVISION

INSTRUCTIONAL AND INFORMATIONAL MEMORANDUM

GENERAL SUBJECT: Corridor Planning Studies – Arterial Management Plans	NUMBER: IIM-TMPD-2.0
SPECIFIC SUBJECT: Process for Conducting Planning Studies on the Arterial Preservation Network	DATE: 7/13/17
	SUPERSEDES:
APPROVED: Marsha Fiol State Transportation Planner Approved <u>7/13/17</u>	

EFFECTIVE DATE

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- These instructions are effective as of July 13, 2017.
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BACKGROUND

VTrans, Virginia’s Multimodal Transportation Plan for 2040, designates certain major highway facilities as Corridors of Statewide Significance (CoSS). In addition to the CoSS system, there are other highway facilities that are needed for statewide connectivity. These highways are functionally classified as Principal or Other Principal Arterials, and like the CoSS, are intended to accommodate long distance movements of people and goods. The viability of this system (the CoSS and the other Principal Arterials) is very important for Virginia’s economy as it provides both interstate and intrastate connectivity.

Arterial Preservation Network

The Arterial Preservation Network includes segments of selected facilities that are part of the CoSS system or are functionally classified as Principal or Other Principal Arterials. Those roadway segments selected for the Arterial Preservation Network are identified as follows:

- “Mobility Preservation Segments” (MPS) – These are segments of arterial roadways outside of urban areas (population of 50,000 or more) that serve a critical long distance mobility function where no parallel Interstate/freeway route exists. VDOT’s

focus on these highway segments will be to preserve the mobility by minimizing the delays for through traffic whenever access changes are proposed.

- “Mobility Enhancement Segments” (MES) – These are segments of Arterial roadways inside of urbanized areas (population of 50,000 or more) where there may be opportunities to improve traffic flow without major widening. These (MES) segments often experience significant traffic growth due to the adjacent land development and travel delay due to the proliferation of entrances and traffic signals that serve adjacent land uses. MES segments generally also serve multiple modes of travel.

This Arterial Preservation Network is shown on a statewide map at this [link](#).

PURPOSE/SCOPE/REQUIREMENTS

The primary function of the Corridors of Statewide Significance (CoSS) as well as the facilities that are classified as Principal Arterials is to serve long distance travel. In order for these corridors to continue serving this function, the ability of long distance travelers and goods to move safely and efficiently must be preserved and given priority over local access.

The Commonwealth Transportation Board (CTB) has expressed the following goals for the Arterial Preservation Network:

1. Preserving the capacity on the MPS;
2. Enhancing the capacity on the MES;
3. Improving the operating efficiency;
4. Reducing the number of existing traffic signals; and
5. Minimizing the number of new traffic signals on these same facilities.

The purpose of this policy is to carry out the goals of the CTB through the development of Arterial Management Plans (AMP). The AMPs will include detailed studies of the existing conditions and operations of a corridor, soliciting input from stakeholders, gaining locality input to plan innovative and cost effective solutions to improve safety, operations, and mobility. The procedures outlined in this document shall be used when developing AMPs and other corridor studies on the [Arterial Preservation Network](#); however, these procedures should also be used for corridor studies on Other Principal Arterials and Minor Arterials that are not part of the Arterial Preservation Network that are important for regional connectivity and mobility.

Planned improvements shall minimize delay for through traffic without compromising the safety for local drivers and other road users. Current access and future access points must be evaluated, planned, and designed to minimize conflict points and delay for through traffic and provide safe access to adjacent land development. This policy is intended to preserve the Commonwealth’s transportation investments by guiding the development of Arterial

Management Plans (AMP) that will allow localities and the Department to better manage and balance system performance with local access needs.

The Commonwealth Transportation Board has approved a Process for Studying Corridors of Statewide Significance ([CTB Policy on CoSS](#) - page 3-116).

The CTB's policy is the guidance document for corridor studies on the Corridors of Statewide Significance (COSS) and developing Corridor Master Plans for the COSS. This IIM is intended to give further instructions for the development of AMPs and other corridor studies on the Arterial Preservation Network.

The following documents contain instructions and guidance on various elements that may be incorporated in the AMPs and other corridor studies:

- Appendix A of the Road Design Manual – with emphasis on laying the foundation for Context Sensitive Solutions (CSS) - Common Sense Engineering (CSE) and Context Sensitive Solutions to Transportation Challenges ([IIM-LD-235](#)) and Practical Design Flexibility in the Project Development Process - Fundamentals of Common Sense Engineering ([IIM-LD-255](#)).
- [Appendix F](#) of the Road Design Manual (access management, intersections, entrances, and crossovers)
- Requirements for Signal Justification Reports (SJR) For New and Reconstructed Signals ([IIM-TE-387](#))
- The [Manual on Uniform Traffic Control Devices \(MUTCD\)](#) and the [Virginia Supplement to the MUTCD](#).
- When Main Street Is a Highway: Addressing Conflicts between Land Use and Transportation ([VTRC Report 17-R13](#)) – December 2016, Kayleigh M. Roy and Peter B. Ohlms
- Improving Collaboration and Consensus Building in the Coordination of Access Management and Land Use in Corridor Planning ([VTRC Report 15-R20](#)) – June 2015, Roger W. Howe
- [Traffic Operations and Safety Analysis Manual \(TOSAM\)](#)

Based on the CTB's goal of eliminating traffic signals where possible, all AMPs and corridor studies on the Arterial Preservation Network shall evaluate existing traffic signals and consider the following:

- Can existing traffic signals feasibly and reasonably be consolidated using access management or local road changes to allow traffic to access the signal at the consolidated location?

- If existing signals are to remain, can the signal be feasibly and reasonably redesigned to reduce the number of signal phases and maximize the amount of green time allotted to the major street? This will involve the consideration and evaluation of Alternative Intersection/Interchange (AI/I) designs.
- Can the existing traffic signal feasibly and reasonably be eliminated, as per Part 4B of the [Virginia Supplement to the MUTCD](#)? Signal “removal” could constitute simple stop sign installation, or conversion of the intersection to a non-signalized Alternative Intersection/Interchange (AI/I) configuration such as a roundabout or a Restricted Crossing U-Turn (RCUT).
- VDOT’s Junction Screening Tool (VJuST) should be used where applicable to evaluate and screen feasible Alternative Intersection/Interchange (AI/I) configurations.

PROCEDURES

A corridor study may be initiated in several ways. Typically, a request for the study is sent from a locality or regional planning organization (MPO/PDC) to the District Engineer/Administrator/Planning Manager. After reviewing the request, the District Engineer/Administrator/Planning Manager will forward the request to the Transportation and Mobility Planning Division. Arterial Management Plans are often initiated by TMPD in coordination with the respective district(s). The corridor study process starts by establishing a study team. ***The CTB members that represent the District or the area are ex-officio members of the study team, will be notified of the schedule and study progress and any related meetings to facilitate their participation and involvement.***

The study team shall be comprised of the following internal and external representatives and are expected to attend all meetings (pending availability):

VDOT Study Team Members

- District Planning Manager (usually the VDOT project manager)
- Residency — Resident Engineer/Residency Administrator or ARE-LU
- District Traffic Engineering and/or Regional Operations
- District Location and Design
- Central Office Transportation and Mobility Planning

External Study Team Members

- Affected Localities
- Regional Planning Organizations (MPO/PDC)

The study team should also include the following representatives based on study needs:

VDOT

- District Environmental
- District Right of Way
- Central Office Traffic Engineering (required at the appropriate stage if a new traffic signal is proposed)
- Central Office Location and Design (required at the appropriate stage if new crossover is proposed or a new/modified access is proposed on a Limited Access Facility.

External

- Federal Highway Administration (FHWA)
- Department of Rail and Public Transportation
- Regional & Local Transit
- Stakeholders – (ex. civic groups, National Park Service, large employers, transportation advocacy groups, etc.)

The corridor study team should begin by establishing a corridor vision and goals which support the safe, efficient, and effective movement of people and goods. Engaging local governments throughout the process is critical in two important respects:

- 1) to ensure that local objectives regarding access, mobility, economic development, and aesthetic standards are considered and included appropriately in a cooperative way that helps further statewide goals, and
- 2) to ensure that the CTB's statewide goals in VTrans are reflected in local comprehensive plans and land use decision-making.

The study team should meet at regular intervals to discuss key topics at the various stages of the corridor study.

The **Corridor Study Process Flow Chart (FIGURE 1)** highlights the five main steps in the corridor study process. These five steps are based upon the [CTB Policy on CoSS Studies](#) (page 3-116), as previously referenced in this document. The study team will ensure that input is captured from localities and stakeholders, and that all participants are working constructively toward solutions that respect the legitimate goals of all involved.

- **STEP 1: Pre-study activities**

Pre-study activities include: (a) establishing the corridor study team including a technical work group, (b) gathering information from the Locality's land use plan, recently approved land rezoning or site plans, prior statewide planning efforts, such as

VTrans and the Surface Transportation Planning process, that should be presented through informative visual displays; (c) focusing specific analysis at the broad corridor level and at some key geographic areas within corridor; and (d) establishing the groundwork for participation in the study, including local and stakeholder participation.

- **STEP 2: Corridor Vision and Planning Framework**

The Corridor visioning involves the collaborative efforts of VDOT, the Locality, DRPT, and other stakeholders to apply the statewide goals of VTrans to the specific corridor, and developing potential strategies that respect the Locality and stakeholder objectives. Additional input will be sought through meetings with individual or groups of stakeholders and through public meetings in accordance with the Public Participation in Virginia's Transportation Planning and Programming Process guidebook.

- **STEP 3: Technical Analysis**

The technical analysis must ensure that an appropriate evaluation of the traffic demand and operations is made for a particular location or area. The level of the analysis will be based on the intensity of current and future traffic demands. Technical analyses will include the collection of traffic data in accordance with the [Traffic Operations and Safety Analysis Manual \(TOSAM\)](#), conducting field reviews and stakeholder interviews, analysis of existing conditions (e.g. land use, crash analysis, access conformance as per VDOT's Access Management Regulations, traffic operations), and development of traffic volume forecasts consistent with regional or statewide forecasting procedures. Regardless of the methodology used, all traffic forecasts developed for the corridor study must be recorded in the Statewide Planning System by contacting VDOT Transportation and Mobility Planning Division. The analysis will identify all issues that need to be addressed and resolved. Alternatives will be developed, analyzed and evaluated in accordance with TOSAM, with emphasis on creative, cost effective and context sensitive design solutions.

Common Sense Engineering and Context Sensitive Designs will be employed in the consideration/evaluation of alternatives. Alternatives should optimize the existing roadway capacity through methods such as operational improvements, access management, Alternative Intersection/Interchange (A/I) designs, turn lanes, and technology/signal operation improvements to facilitate mobility at existing signals as well as Transportation Demand Management (TDM) before recommending additional capacity through roadway widening. TDM strategies include but are not limited to Park & Ride Lots, transit, bicycle/pedestrian facilities, and employer outreach for flexible work schedules and telework opportunities. New signals at currently non-signalized intersections shall be evaluated in accordance with [IIM TE-387](#) and the [Virginia Supplement to the MUTCD](#). Results of these evaluations will be shared with stakeholders at public meetings.

- **STEP 4: Coordination and Study Completion**

Coordination efforts include workshops and meetings with local governments and stakeholders to explain the technical analysis and the preliminary recommendations for the corridor. The study team must facilitate the discussions on solutions to ensure that the input from all participants is considered in developing the final recommendations. The corridor study will then be documented in the form of an Arterial Management Plan.

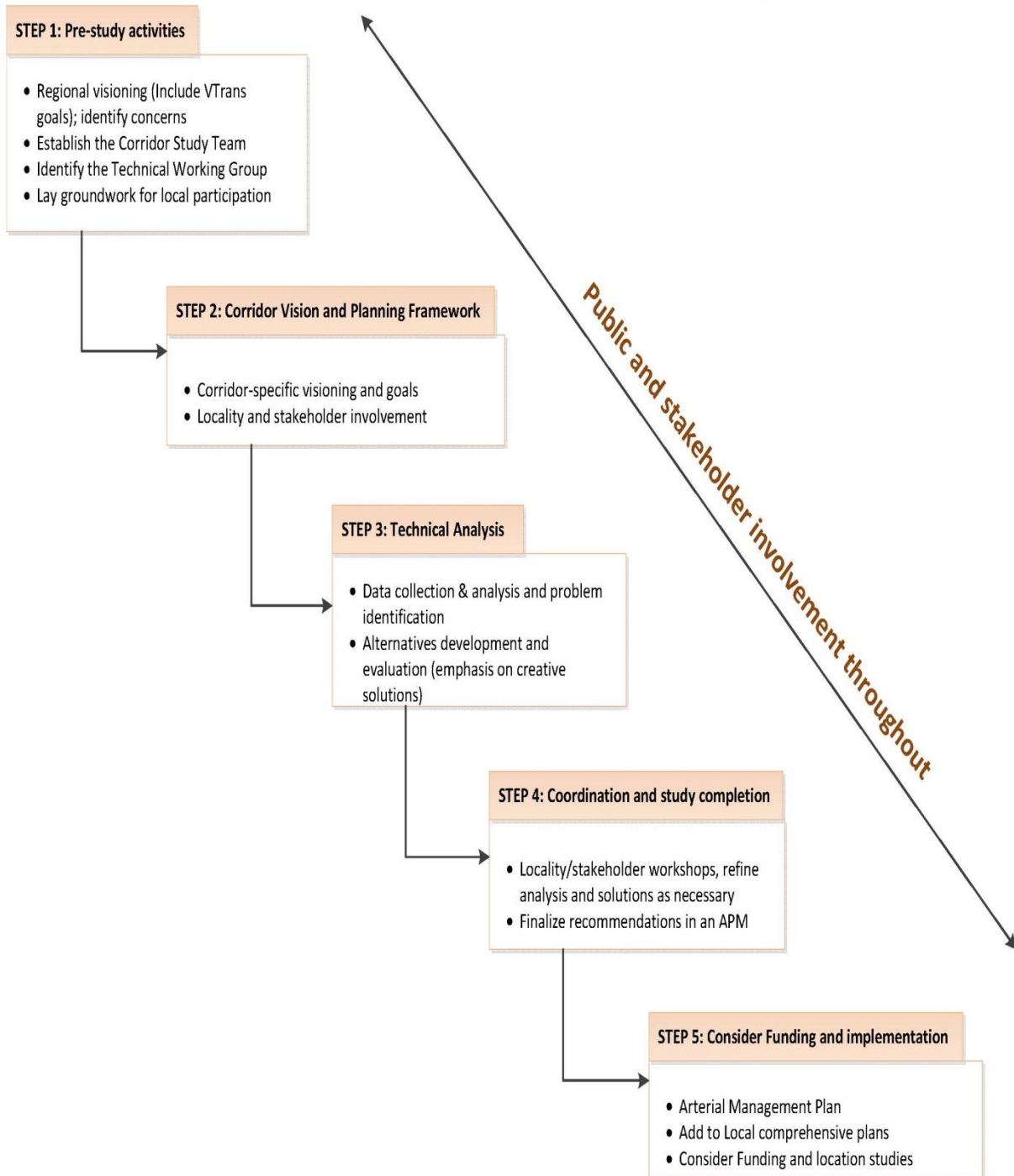
- **STEP 5: Project Advancement and Implementation**

Many of these activities occur after the formal corridor study is incorporated into an Arterial Management Plan for this MPS or MES.

- Local government activities include adopting the Arterial Management Plan, revising local comprehensive plans, and identifying possible local sources of funding.
- Regional agency activities include updating regional planning documents (e.g., Constrained Long Range Plan, Rural Long Range Plan), and identifying any possible regional funding options.
- State –VDOT/DRPT activities include the incorporation of the AMP (after Local adoption) in state planning documents (e.g. VTrans), updating the Statewide Planning System, identifying state and federal funding options, performing detailed location studies, and ultimately, project construction and/or improvements to highway, transit and rail services. State implementation may also include non-construction recommendations, such as new policies, rules or procedural changes.

These represent the broad steps for the development of corridor studies and AMPs along the Arterial Preservation Network; however, each study should be designed for the unique characteristics of the study corridor. If there is an existing safety need, the corridor study should follow the Fundamentals of Common Sense Engineering as outlined in [IIM-LD-255](#). In cases where a study corridor is relatively undeveloped but is anticipated to develop or is planned for redevelopment based on the future land uses identified in the locality's Comprehensive Plan, the corridor analysis must consider those planned land use changes.

FIGURE 1: Corridor Study Process Flow Chart



A key point illustrated by the flow chart is the involvement of local governments and other stakeholders in the development of an effective corridor management plan and investment strategy.

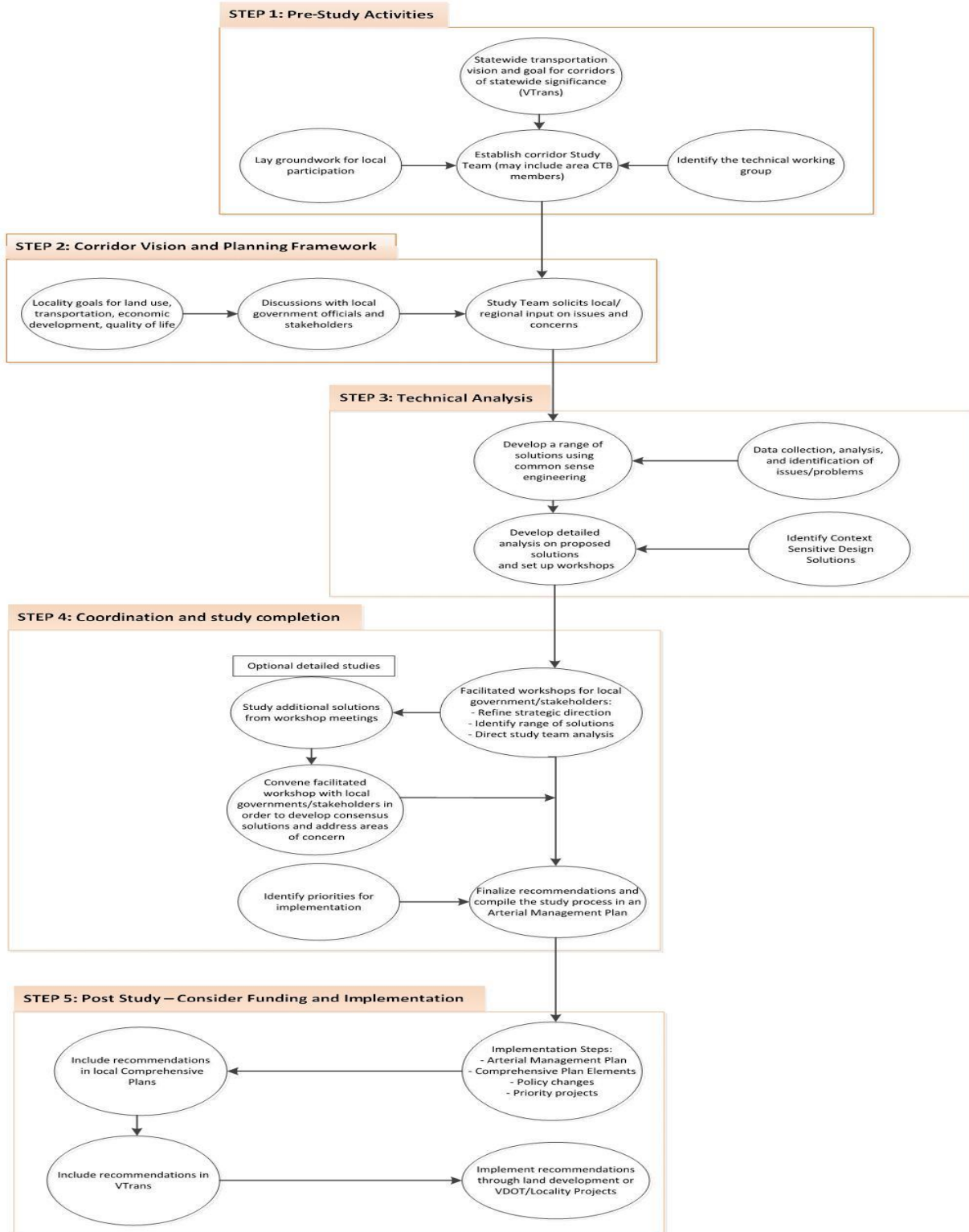
The corridor study team will meet with the elected leaders and Locality staff early in the process in order to reach an understanding of corridor interests and to capture local priorities. These might be special meetings or regular meetings of board or planning commissions or transportation committees. The goal is to engage local officials throughout the corridor study process. Beginning at the initiation of the study, the study team should encourage communication with elected leaders and collaboration specifically where special issues, such as congestion relief, unique safety needs, historical and cultural resources or specific growth pressures exist.

Specific recommendations are likely to be adjusted throughout the study to reflect technical and planning considerations, changing needs and conditions. The study team should use area maps with overlays as well as other displays that may be needed for the participants to clearly understand the issues and impacts.

It is important that VDOT and local study team representatives keep all stakeholders informed and seek common ground to achieve transportation goals. The study process must be designed to maximize the constructive cooperation of all involved. This cooperation will promote buy-in to the plan which is critical for implementation and effectiveness.

The technical processes and procedural steps for corridor studies are well-established and documented in [NCHRP Report 435](#), Guidebook for Transportation Corridor Studies. **See *FIGURE 2 for A Typical Corridor Study Flow Chart on the technical process***. Using the Figure 2 flow chart as a guide, the Study Team will meet with stakeholders to develop the study outline and scope of work to address the long term planning vision as well as any issues that may be unique to the corridor.

FIGURE 2: A Typical Corridor Study Flow Chart



REFERENCES

Sources

- [Access Management Regulations](#)
- Access Management Spacing Exceptions/Waivers, IIM-LU-501
- [Arterial Management Plan Methodology Report](#) (DRAFT)
- [Arterial Management Plan Methodology – Toolbox of Alternatives](#) (DRAFT)
- [Arterial Preservation Network Map](#)
- Context Sensitive Solutions (CSS) - Common Sense Engineering (CSE) and Context Sensitive Solutions to Transportation Challenges, [IIM-LD-235](#)
- [CTB Policy on CoSS](#) (page 3-116)
- Improving Collaboration and Consensus Building in the Coordination of Access Management and Land Use in Corridor Planning ([VTRC Report 15-R20](#)) – June 2015, Roger W. Howe
- [Manual on Uniform Traffic Control Devices \(MUTCD\)](#)
- [NCHRP Report 435](#): Guidebook for Transportation Corridor Studies
- Practical Design Flexibility in the Project Development Process - Fundamentals of Common Sense Engineering, [IIM-LD-255](#)
- [Public Participation Process for Transportation Planning and Programming](#) Requirements for Signal Justification Study Reports (SJR) For New and Reconstructed Signals, [IIM-TE-387](#)
- Review of Comprehensive Plans and Comprehensive Plan Amendments, IIM-LU-100
- Review of Rezoning Proposals, IIM-LU-200
- Review of Site Plans and Subdivision Plats, IIM-LU-500
- [Rural Transportation Consultation Processes](#)
- [Traffic Operations and Safety Analysis Manual](#) (TOSAM)
- VDOT's Junction Screening Tool, (VJuST)
- [VDOT Road Design Manual, Appendix A and F](#)
- [Virginia Supplement to the MUTCD.](#)
- [Virginia Travel Demand Modeling Policies and Procedures Manual](#)
- [VTrans Official CoSS map](#)
- [VTrans Reports](#)
- When Main Street Is a Highway: Addressing Conflicts between Land Use and Transportation ([VTRC Report 17-R13](#)) – December 2016, Kayleigh M. Roy and Peter B. Ohlms

Statute References: Statutes for Authority as Well as Application of the Policy

Powers and duties regarding the Board (CTB):

[§ 33.2-210](#). Traffic regulations; penalty.

[§ 33.2-214](#). Transportation; Six-Year Improvement Program.

[§ 33.2-214](#) (A). To monitor coordination of such rail and public transportation plans with highway programs.

[§ 33.2-214](#) (B). To coordinate the planning for financing of transportation needs. To allocate funds for these needs the Board shall adopt a Six-Year Improvement Program.

[§ 33.2-214](#) (E). (Review of local transportation plans regarding their consistency with state plans). To integrate land use with transportation planning and programming, consistent with the efficient and economic use of public funds. The Board shall notify the locality of such inconsistency.

[§ 33.2-214.1](#). Statewide prioritization process for project selection.

[§ 33.2-214.1](#) (2) Candidate projects and strategies shall be screened to determine whether they are consistent with the assessment of capacity needs for all corridors of statewide significance, regional networks, and improvements to promote urban development areas undertaken in the Statewide Transportation Plan.

[§ 33.2-215](#). Policies and operation of Departments.

[§ 33.2-353](#). Commonwealth Transportation Board to develop and update Statewide Transportation Plan.

[§ 33.2-370](#). High-priority projects program.

[§ 33.2-370](#) (A). "High-priority projects" means those projects of regional or statewide significance, such as projects that reduce congestion or increase safety, accessibility, environmental quality, or economic development.

[§ 33.2-371](#). Highway construction district grant programs.

[§ 33.2-371](#) (B). Highway construction district grant programs. To fund projects and strategies to address a need in the Statewide Transportation Plan.

Powers and duties regarding the Commissioner of Highways:

[§33.2-225](#). Liaison duties with other organizations.

[§33.2-241](#). Connections over shoulders of highways for intersecting commercial establishment entrances.

[§33.2-245](#). Comprehensive highway access management standards.

[§33.2-242](#). Replacing entrances destroyed in the repair of construction of highways.

[§33.2-1004](#). Subject to compliance with applicable federal regulations, the Commissioner of Highways shall establish a plan for identification and acquisition of rights-of-way that may be needed within the corridors designated on the Statewide Transportation Plan.

Counties, Cities and Towns (locality planning requirements)

[§15.2-2222.1](#). Coordination of state and local transportation planning. The locality shall submit such plan or amendment to the Department of Transportation if such plan or amendment will substantially affect transportation on state-controlled highways.

[§15.2-2223](#). Comprehensive plan to be prepared and adopted; scope and purpose.

[§15.2-2223](#) (B.3) The transportation plan and any amendment shall be consistent with the Commonwealth Transportation Board's Statewide Transportation Plan, Six-Year Improvement Program, and the location of routes.

[§ 15.2-2223](#) (B.4) Prior to adoption of the transportation plan or any amendment the locality shall submit such plan or amendment to the Department.

[§ 15.2-2223.1](#). Comprehensive plan to include urban development areas. Any locality may amend its comprehensive plan to incorporate one or more Urban Development Area(s).

[§ 15.2-2224](#). Surveys and studies to be made in preparation of plan; implementation of plan.

[§ 15.2-2230](#). Comprehensive Plan to be reviewed every five years.

[§ 15.2-2232](#). Legal Status of the Plan. Each local government through which one or more of the designated Corridors of Statewide Significance traverses, shall, at a minimum, note such corridor or corridors on the transportation plan map.