



**Statewide Update Of
Functional Classification System and
National Highway System**

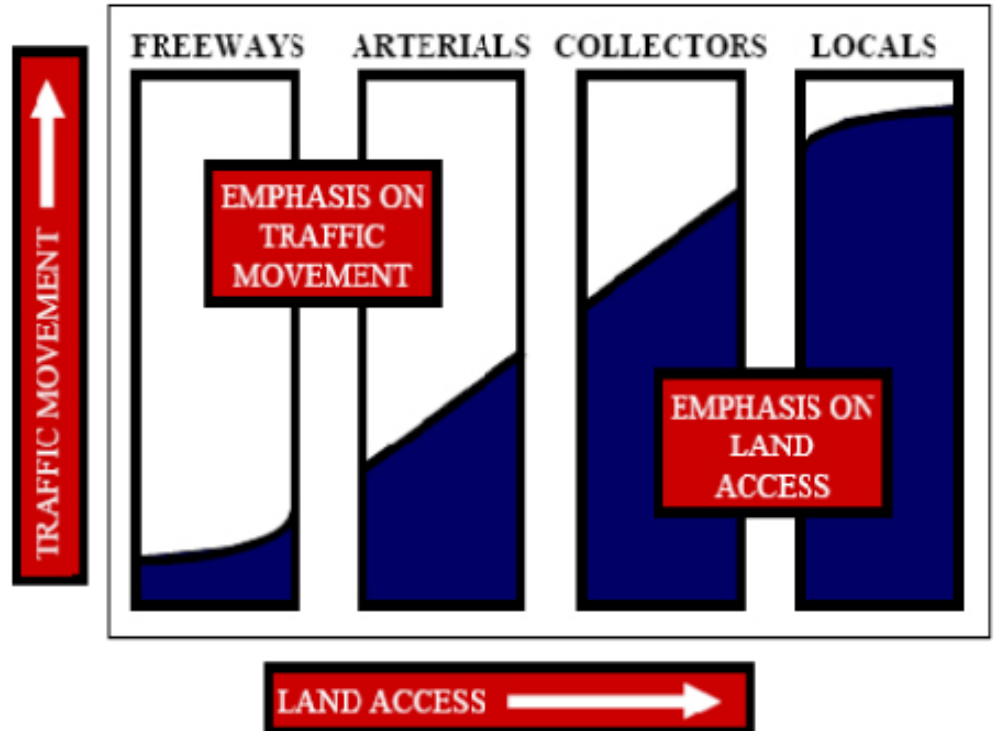
**TPB Technical Committee
May 3, 2013**

Presentation Overview

- **What is Functional Classification**
- **Use of Functional Classification**
- **Current FC Inventory**
- **Purpose of update**
- **Federal Guidelines, Criteria, Updates**
- **Functional Class Update – Key Elements**
- **NHS Update**
- **Web Tool**
- **Next Steps**

What is Functional Classification

- Grouping streets and highways into classes/systems, according to the part the street/highway plays in serving the flow of trips through a roadway network.
- A roadway's functional usage is based on **Mobility & Accessibility**
 - **Mobility** - ability of traffic to pass through a defined area in a reasonable amount of time.
 - **Accessibility** - capability to provide access to/between land use activities within a defined area



VDOT's Uses for Functional Classification

To determine:

- **Eligibility for Federal-aid highway program funding**
- **Applicable geometric design standards for Roads / Bridges**
- **Amount of Maintenance funds to localities that has responsibility for road maintenance**
- **Access management features (spacing and type of access such as interchanges, intersections, and roadside entrance, exit and/or driveway points)**
- **Requirements to accept roadway into Secondary Street System**
- **Reporting requirements for federal Highway Performance Monitoring System**
- **Eligibility for traffic calming measures.**
- **National Highway System**

Current System Inventory

Urban FC	State-wide	NoVA	Rural FC	State-wide	NoVA
Urban Interstate	450 mi	91 mi	Rural Interstate	669 mi	3 mi
Urban Other Freeways and Expressways	291 mi	48 mi			
Urban Other Principal Arterials	1,321 mi	302 mi	Rural Other Principal Arterials	1,346 mi	33 mi
Urban Minor Arterial	2,285 mi	609 mi	Rural Minor Arterial	3,430 mi	44 mi
Urban Collector	2,428 mi	520 mi	Rural Major Collector	9,267 mi	164 mi
			Rural Minor Collector	2,438 mi	37 mi
Urban Local	17,028 mi	4,013 mi	Rural Local	33,202 mi	723 mi
National Highway System				5,556 mi	657 mi

Purpose of Update

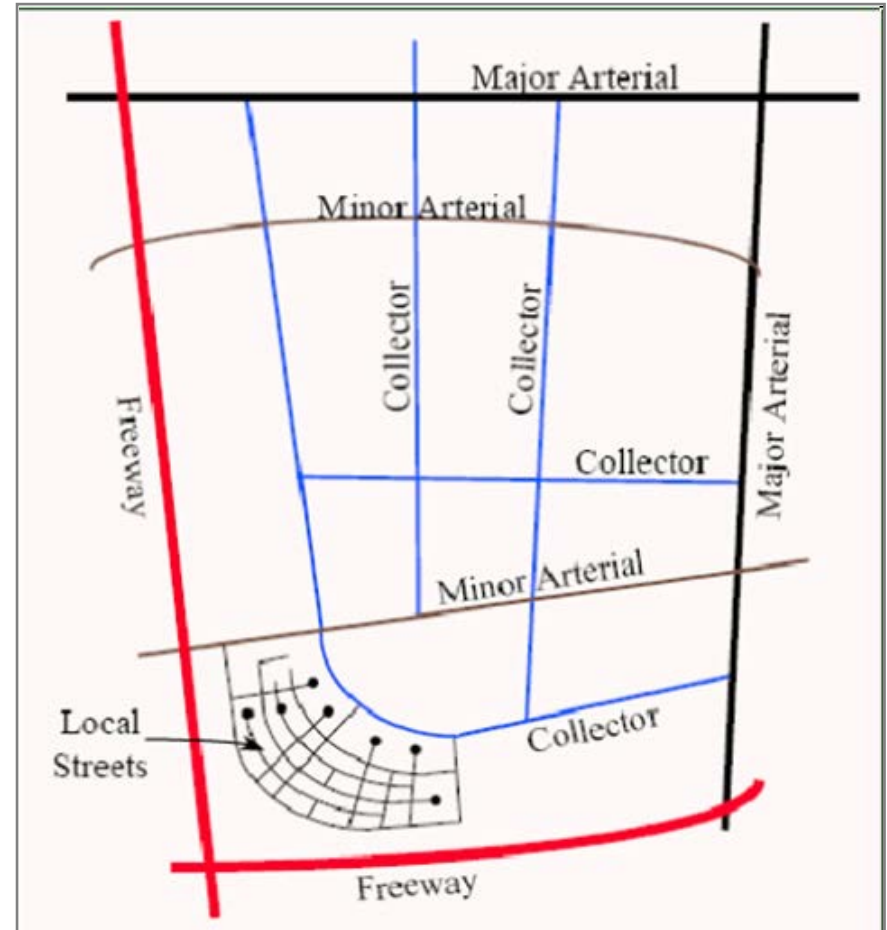
- **Decennial update to reflect census data (urban/rural boundaries, changes to roadway network, etc.)**
- **Reflect updated federal guidelines on Functional Classification**
- **Expand the NHS to comply with MAP-21's requirement**
- **Develop a more systemic and analytical basis for functional classification**
- **Develop a more user friendly / interactive database for use by stakeholders**

FHWA's New Guidelines

- **No longer requires a change at the location of the urbanized boundary (e.g. rural class can continue within urban boundary)**
- **Future Roads – add if roadway will be open to traffic during TIP period (4 years in VA)**
- **Urban Collectors replaced with Major and Minor Collectors)**
- **New Mileage and VMT Thresholds**
- **More of an ongoing process**

Functional Classifications Criteria

- For each class, FHWA provides criteria. Examples include:
- Type of trips being served
 - Travel speeds
 - Trip distance
- Population center thresholds and/or traffic generators/destinations being served
- Expected volume
- Network characteristics
- Interval spacing
- Mileage extents
- **The main focus is function!**
- www.fhwa.dot.gov/planning/fctoc.htm



New Functional Classification Categories

New FC	Old Urban FC	Old Rural FC
Interstate	Urban Interstate	Rural Interstate
Other Freeways and Expressways	Urban Other Freeways and Expressways	
Other Principal Arterial	Urban Other Principal Arterials	Rural Other Principal Arterials
Minor Arterial	Urban Minor Arterial	Rural Minor Arterial
Major Collector	Urban Collector	Rural Major Collector
Minor Collector		Rural Minor Collector
Local	Urban Local	Rural Local

Functional Classification Update

Key Elements

- **Start with Existing FC and Convert Existing FC into New FC Categories and Add New Roads**
- **Calculate Composite Index (see details)**
- **Review Functional Classification Definitions and Criteria**
- **Review other State's FC Designations**
- **Review City/County/MPO Transportation Plans**
- **Prepare Draft Updated FC System for Review (with maps)**
- **Calculate Network Mileage**
- **Draft Update to be Presented For Review by MPOs, PDCs, Localities**
- **Revised Draft coordinated with other states and FHWA**
- **Final maps and mileage**

Composite Index

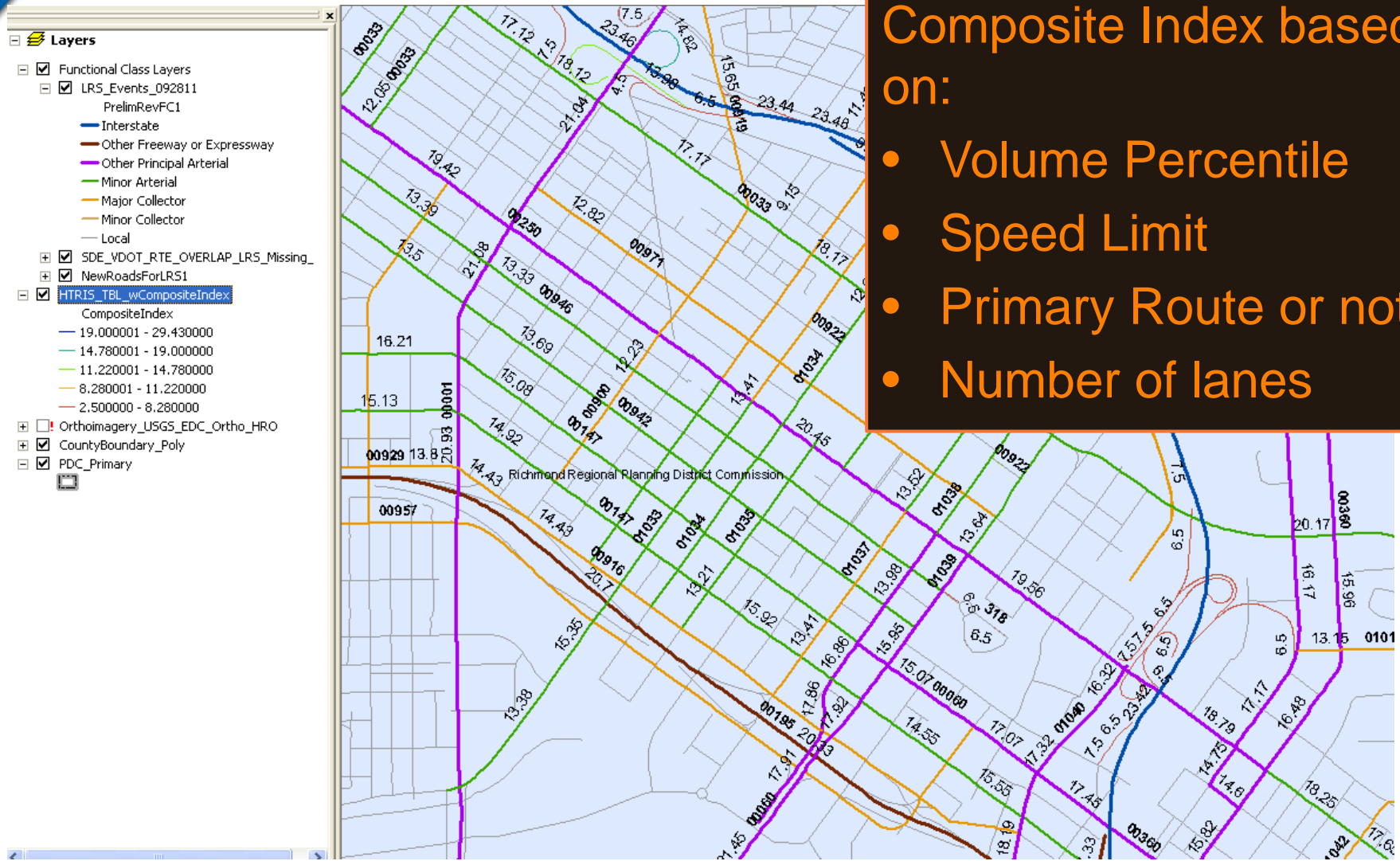
- The HTRIS Composite Index is a data- driven quality check for existing and proposed functional classifications of roads
- All roads in our HTRIS system were reviewed and scored
- Factors used in the Index:
 - AADT (Volume percentile)
 - Primary system or not
 - Posted speed
 - Number of Lanes
- Higher scores suggest a higher functional class
- Works good for verifying and suggesting arterials but is not as good for verifying and suggesting collectors

The main focus is function!

Composite Index

Composite Index based on:

- Volume Percentile
- Speed Limit
- Primary Route or not
- Number of lanes



NHS System Update

- MAP-21 section 1104 requires the expansion of the National Highway System (NHS) and eliminates the statutory mileage cap.
- The expanded NHS System became effective on October 1, 2012.
- Tentative expansion of the NHS expansion accomplished by inclusion of all principal arterials into NHS.
- Tentative update of the principal arterials in VA prior to expanding its NHS.
 - *455 mi of Minor Arterial & 5 mi Collectors upgraded to PA -Statewide*
 - *19 mi Minor Arterial upgraded to PA, 17 mi PA downgraded to Minor Arterial - NoVA*
- VA's expanded NHS conditionally approved by FHWA pending VA's statewide FC update & stakeholder consultation (including MPO)-underway.
 - *917 miles of PA added to NHS statewide*
 - *About 73 miles of PA added to NHS in NoVA*

Web Tool

VDOT Functional Class | gis3.rbf.com/vdot/

VDOT Statewide Functional Classification Update

Comment on Change

Click CHECKBOX to turn on/off layer:

- NHS Changes
- Functional Class
 - Functional Class Changes
 - Downgrade
 - Upgrade
 - Proposed Functional Class
 - Interstate
 - Other Freeway or Expressway
 - Other Principal Arterial
 - Minor Arterial
 - Major Collector
 - Minor Collector
 - Local or Ramp
 - Existing Functional Class
 - Interstate
 - Other Freeway or Expressway
 - Other Principal Arterial
 - Minor Arterial
 - Major Collector
 - Minor Collector
 - Local
- HTRIS Composite Index

Next Steps

- **MPO/PDC/Localities review of proposed updates to functional classification and the NHS: Now – June 2013**
- **Continued coordination with VDOT on edits and changes**
- **MPO/PDC/Localities approval of updates: July/August 2013**
- **Continue to Document Functional Classification Update Process: May/July**
- **VDOT submittal of final functional classification inventory to FHWA: August/September 2013**
- **Incorporate new FC inventory maps on web (via Web Tool or similar): September/October 2013**