COMMONWEALTH of VIRGINIA
Office of the
SECRETARY of TRANSPORTATION

VTrans Update: Needs Assessment Overview

Webinar Presentation

Jitender Ramchandani, OIPI

Thursday, May 30th, 2019

Feedback Requests Checklist

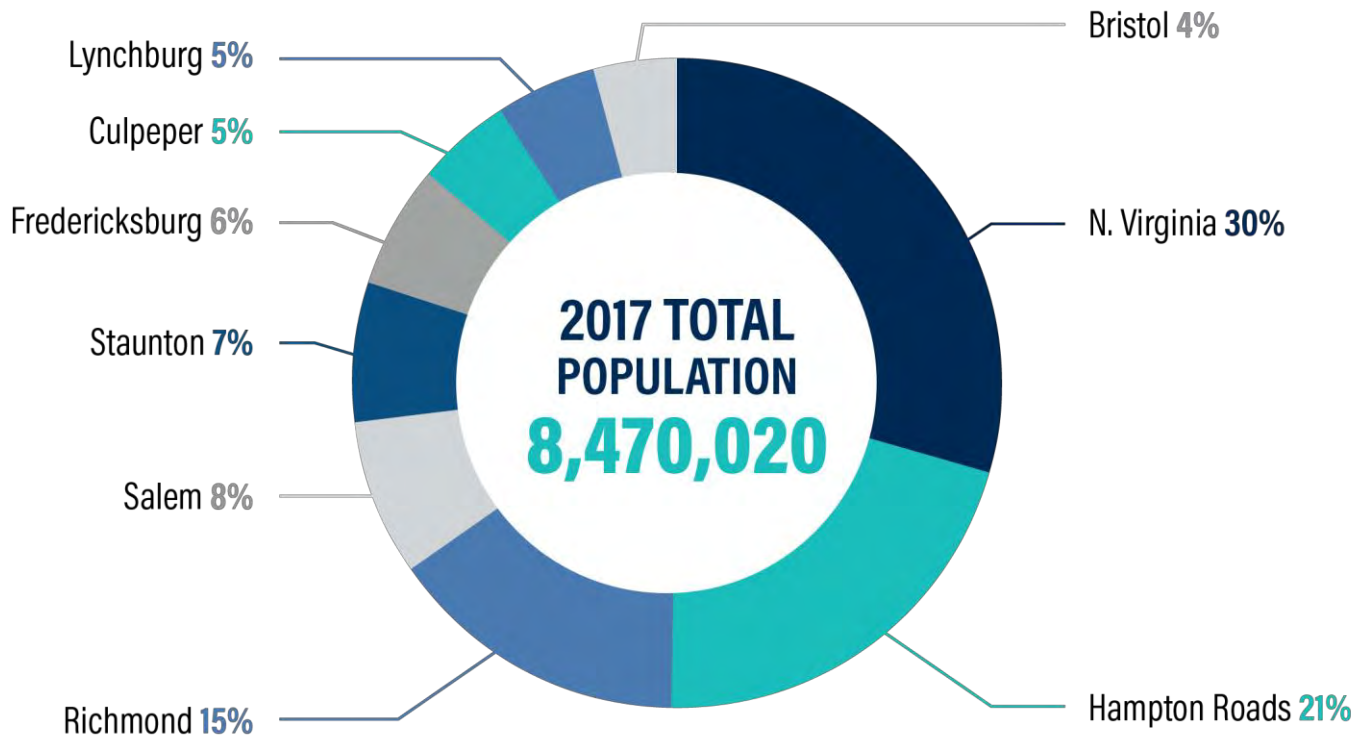
- ❑ Share performance measures to be used for Needs Identification (today's webinar)
- ❑ Confirm activity centers (ongoing & July regional workshops)
- ❑ Confirm presence of UDAs and UDA contacts (ongoing with localities)

TRANSPORTATION'S ROLE IN ECONOMY

- Population and employment trends provide insight to transportation demand:
  - Economic model is changing – some businesses are choosing locations based on quality of life (workers prefer walkable places to live and work)
  - Different industry clusters have different transportation modal demand
  - Transportation plays an important role in attracting future workforce
  - Generational values/expectations guide where people choose to live and work

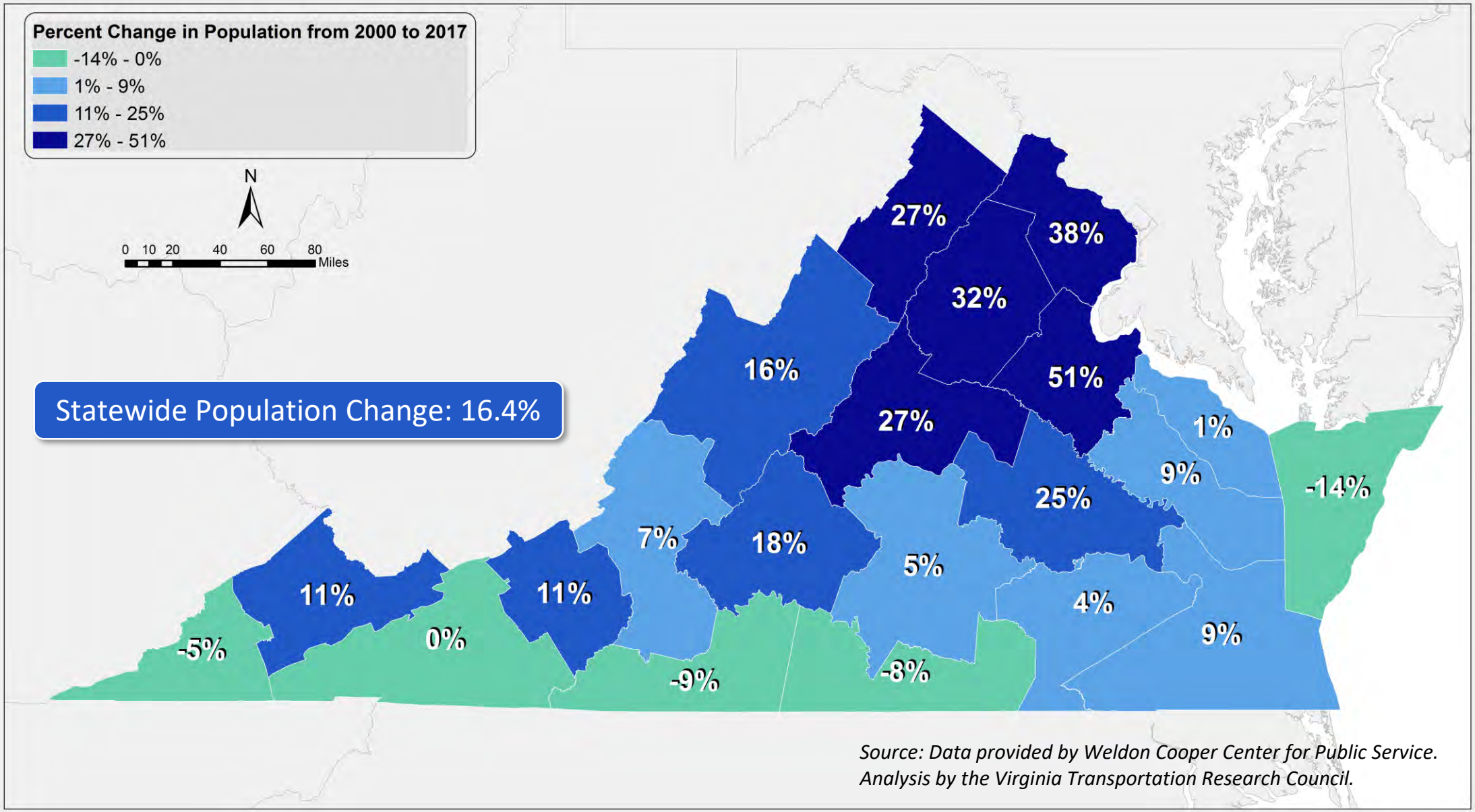
DEMOGRAPHIC TRENDS: POPULATION BY CTB DISTRICT

Percentage of Population *(By CTB District)*



Source: Data provided by Weldon Cooper Center for Public Service. Analysis by the Virginia Transportation Research Council.

Demographic Trends: Population Change by PDCs – 2000-2017



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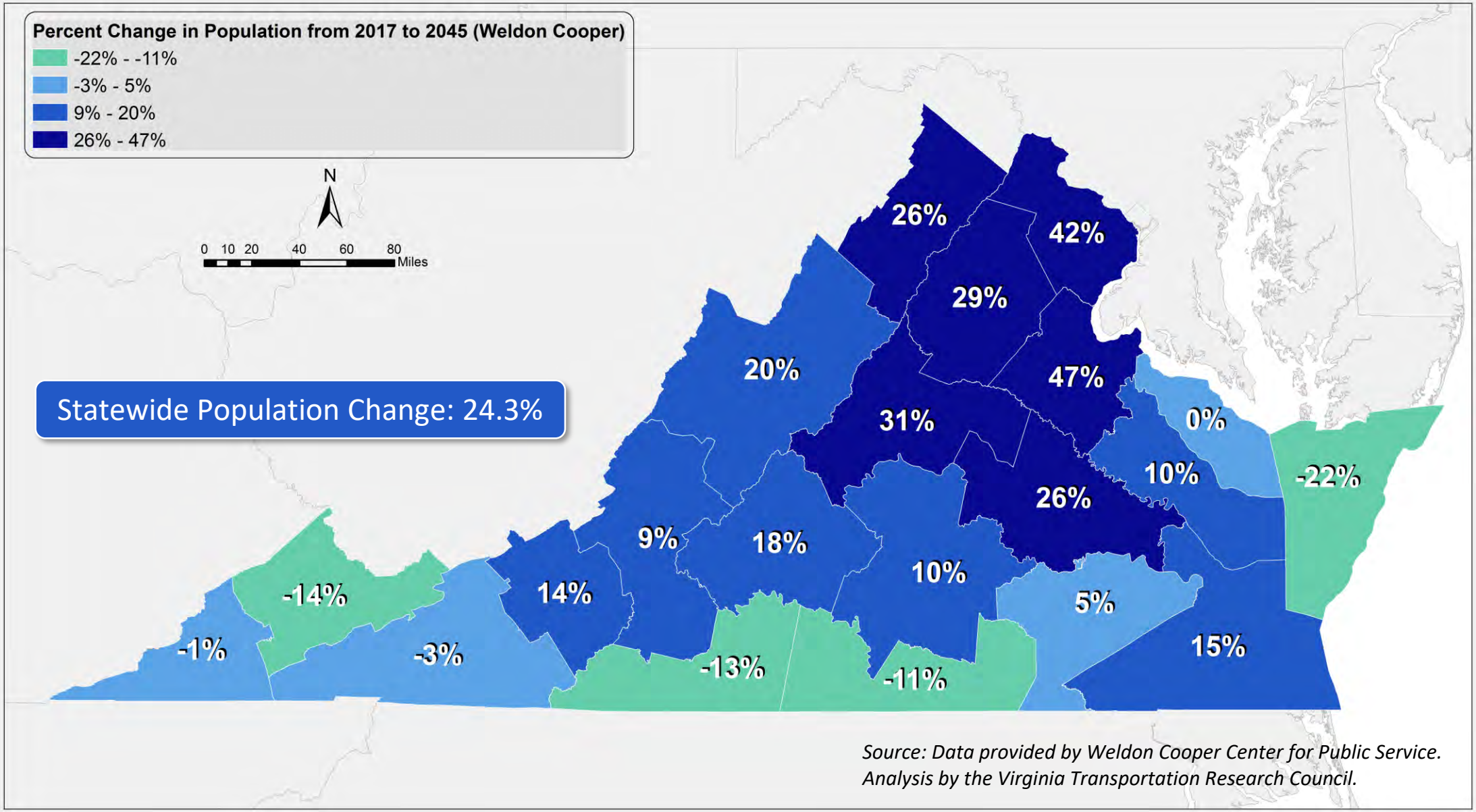
Demographic Trends: Population Change by PDCS – 2017-2045



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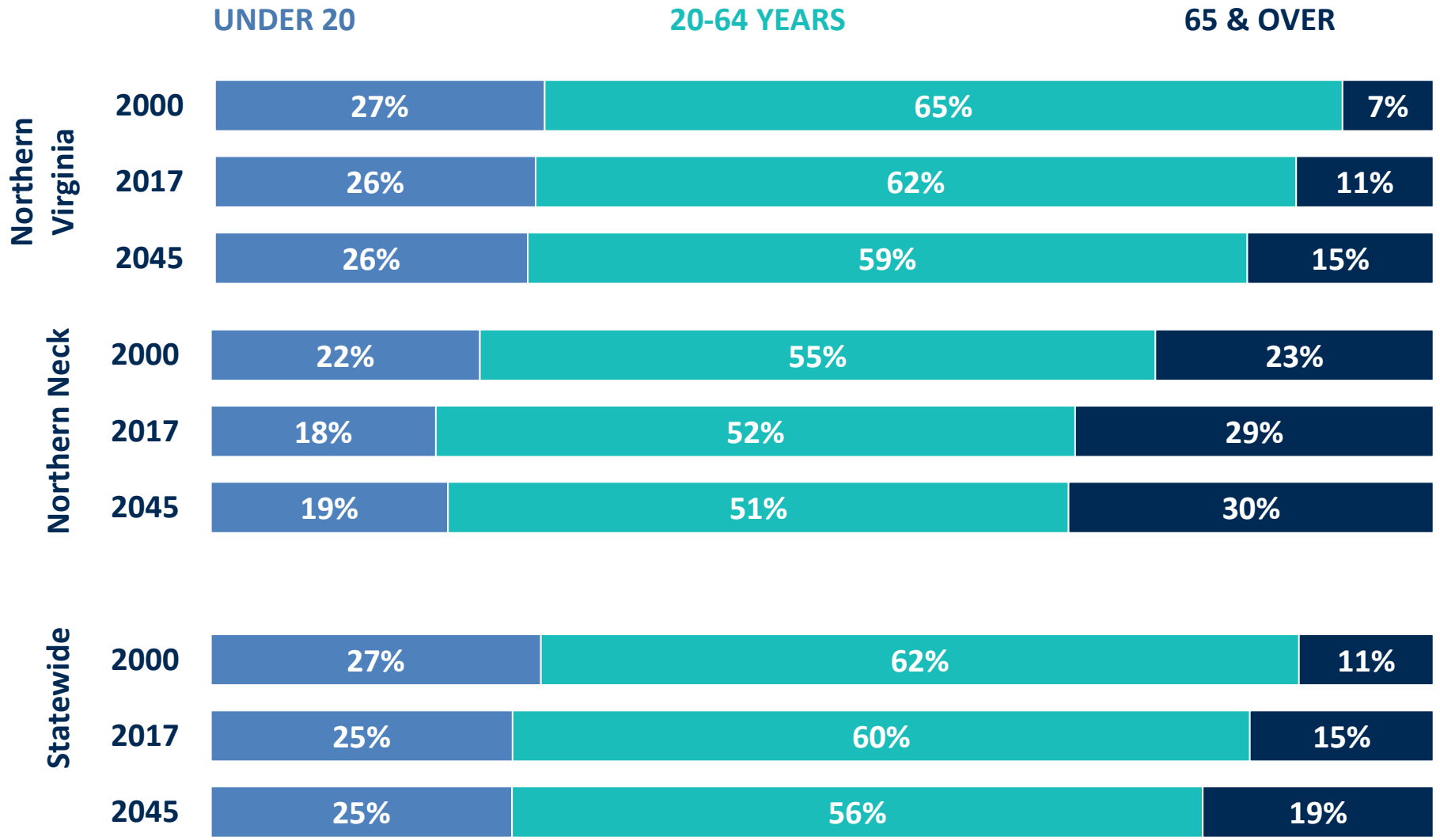
DEMOGRAPHIC TRENDS: EXAMPLE AGE DISTRIBUTION BY PDC



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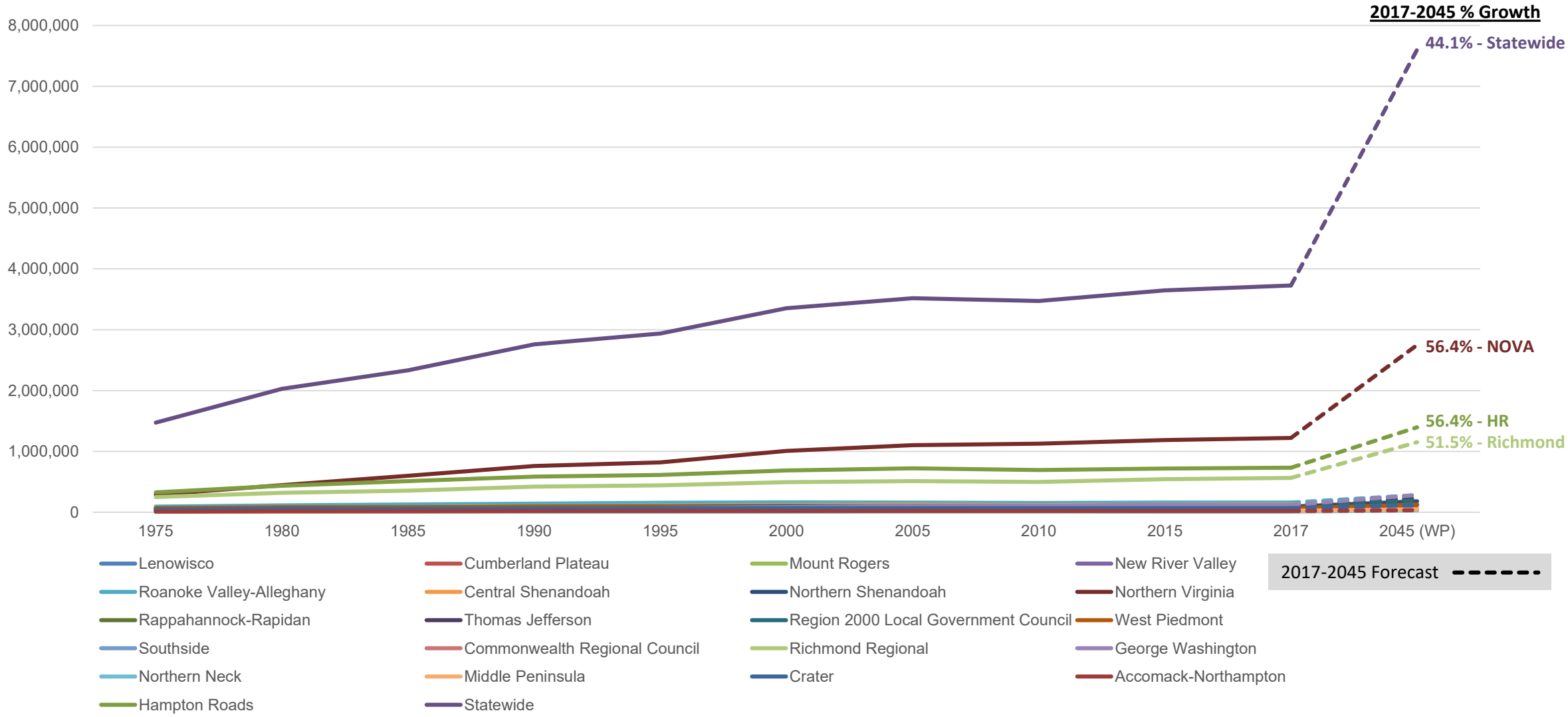
Source: Data provided by Weldon Cooper Center for Public Service. Analysis by the Virginia Transportation Research Council.

DEMOGRAPHIC TRENDS: EMPLOYMENT BY PDC – 1975 TO 2045



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Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

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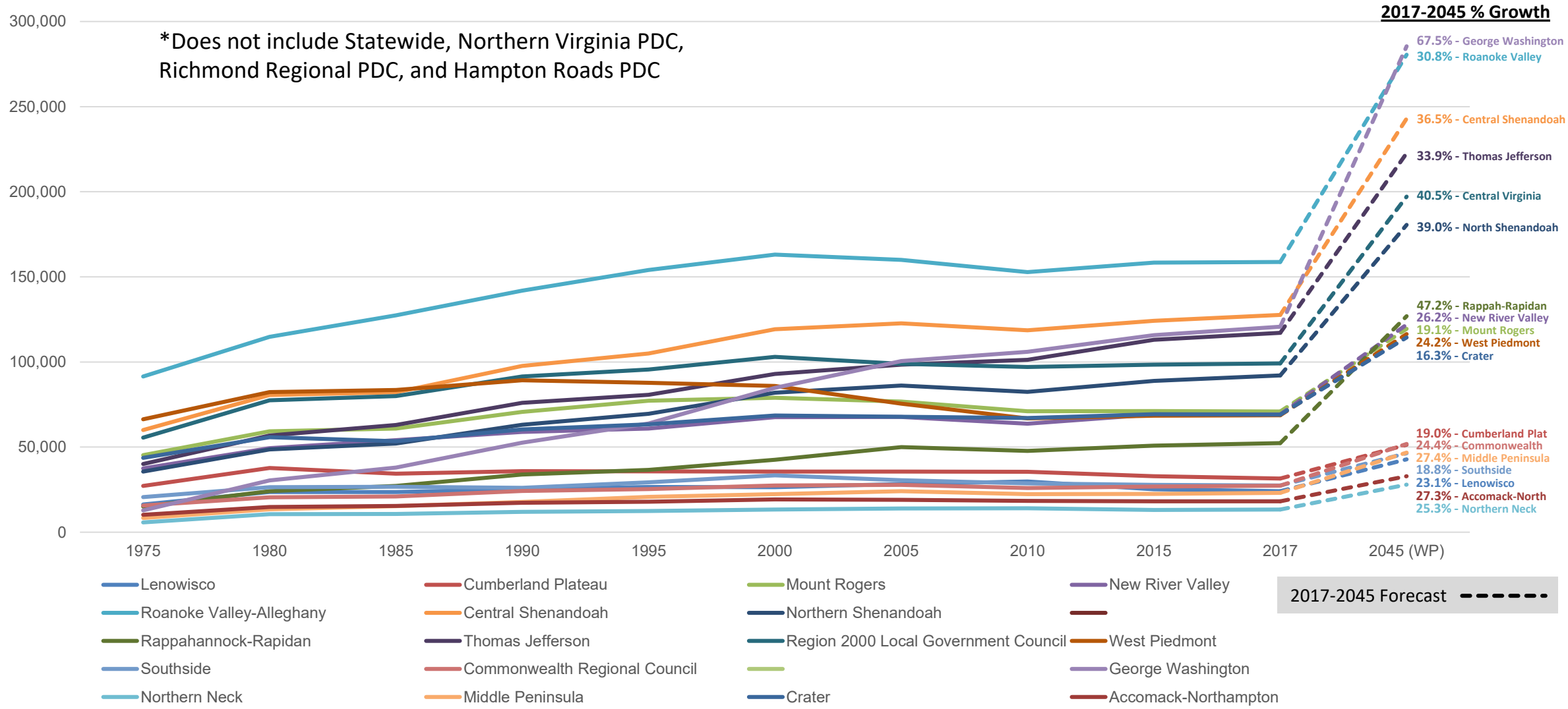

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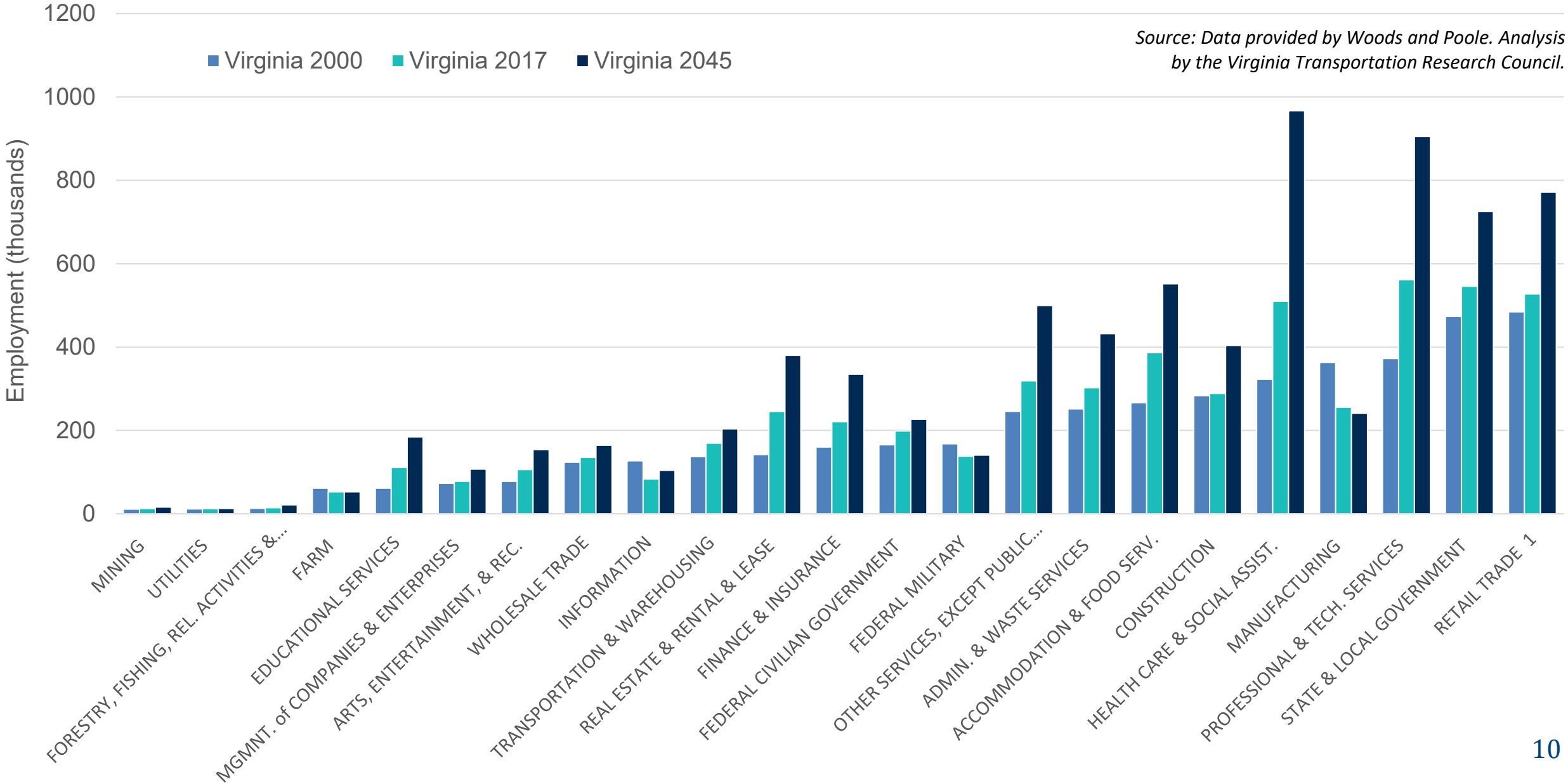
Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

Demographic Trends: Statewide Employment by Industry



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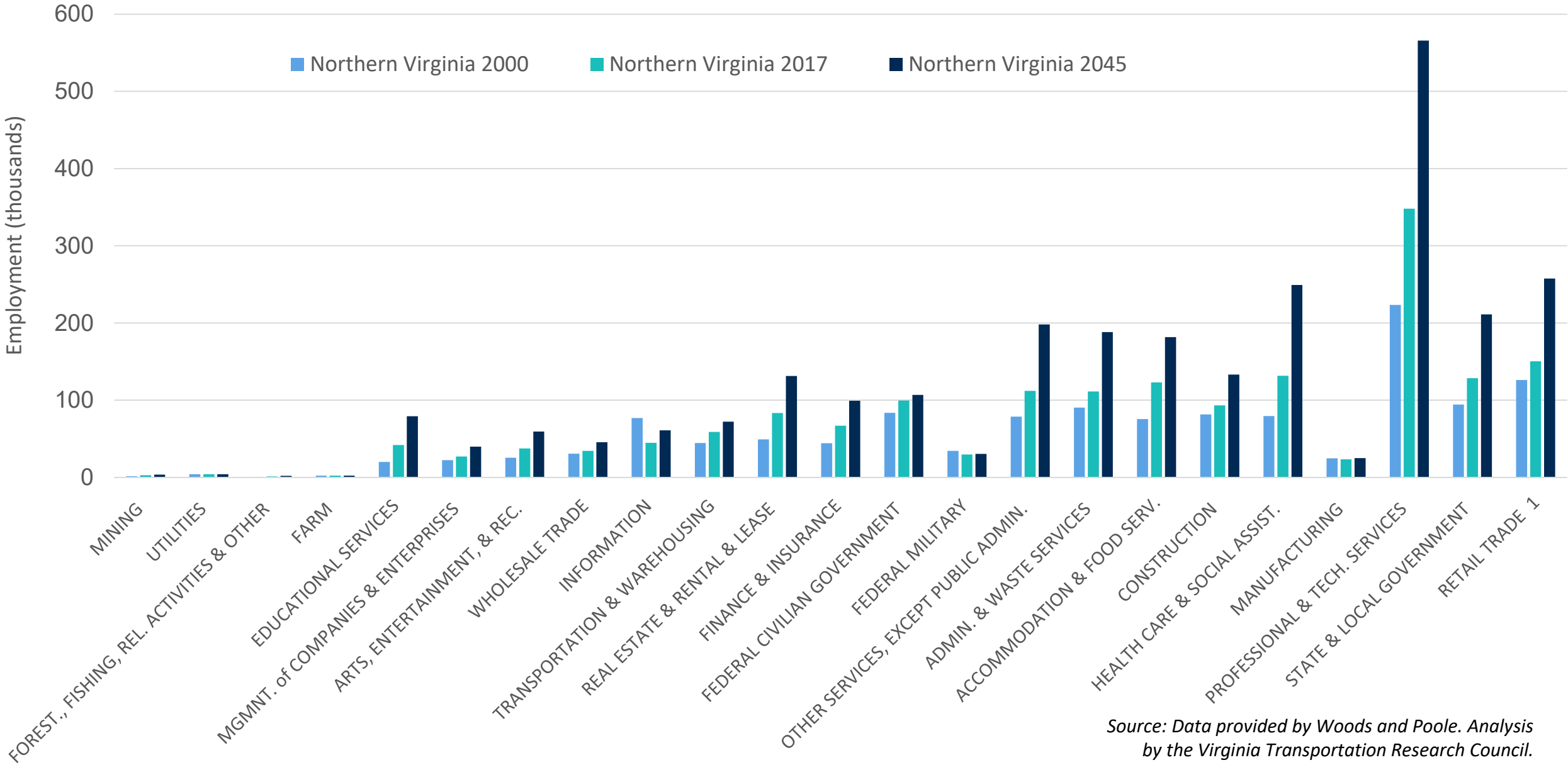
DEMOGRAPHIC TRENDS: EXAMPLE PDC EMPLOYMENT BY INDUSTRY



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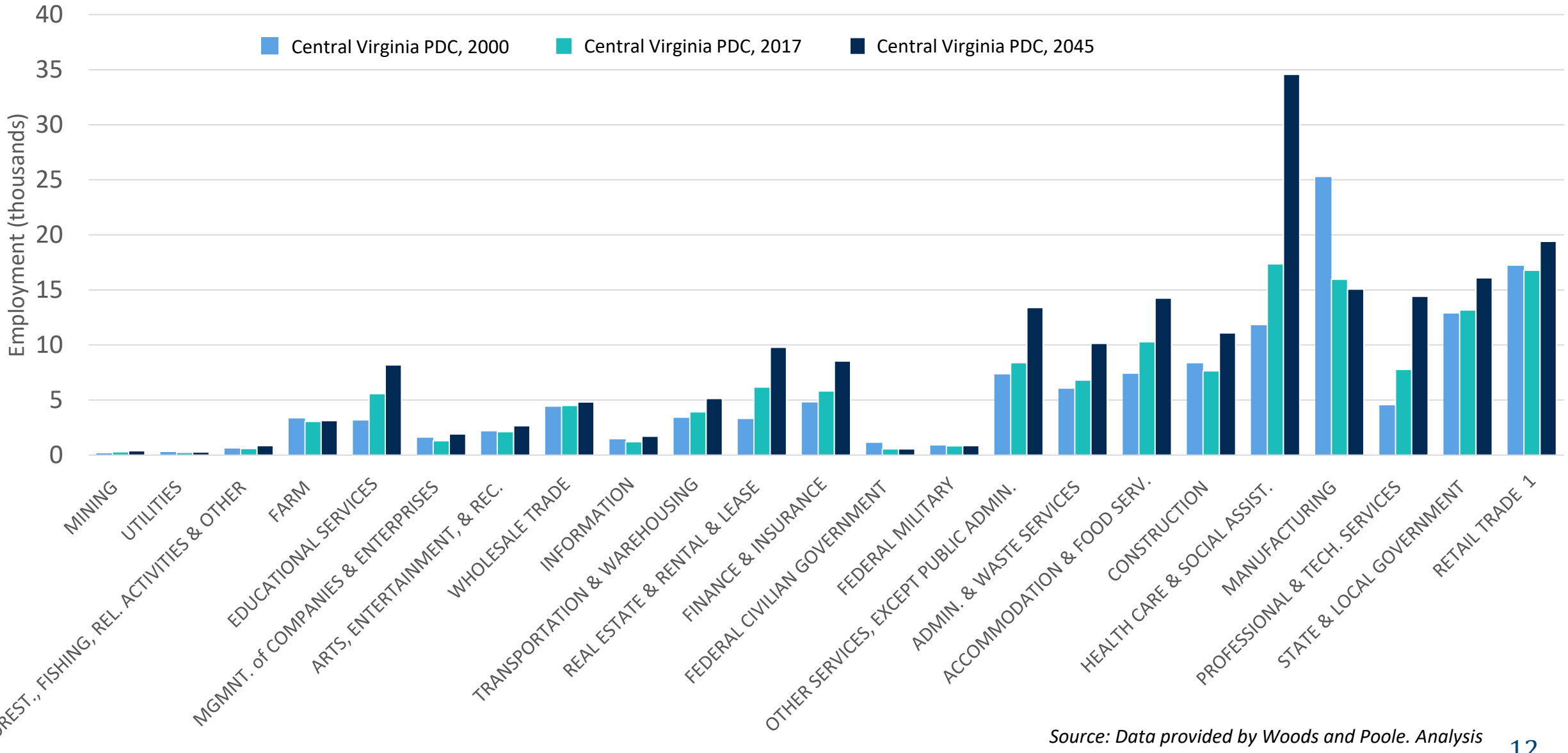

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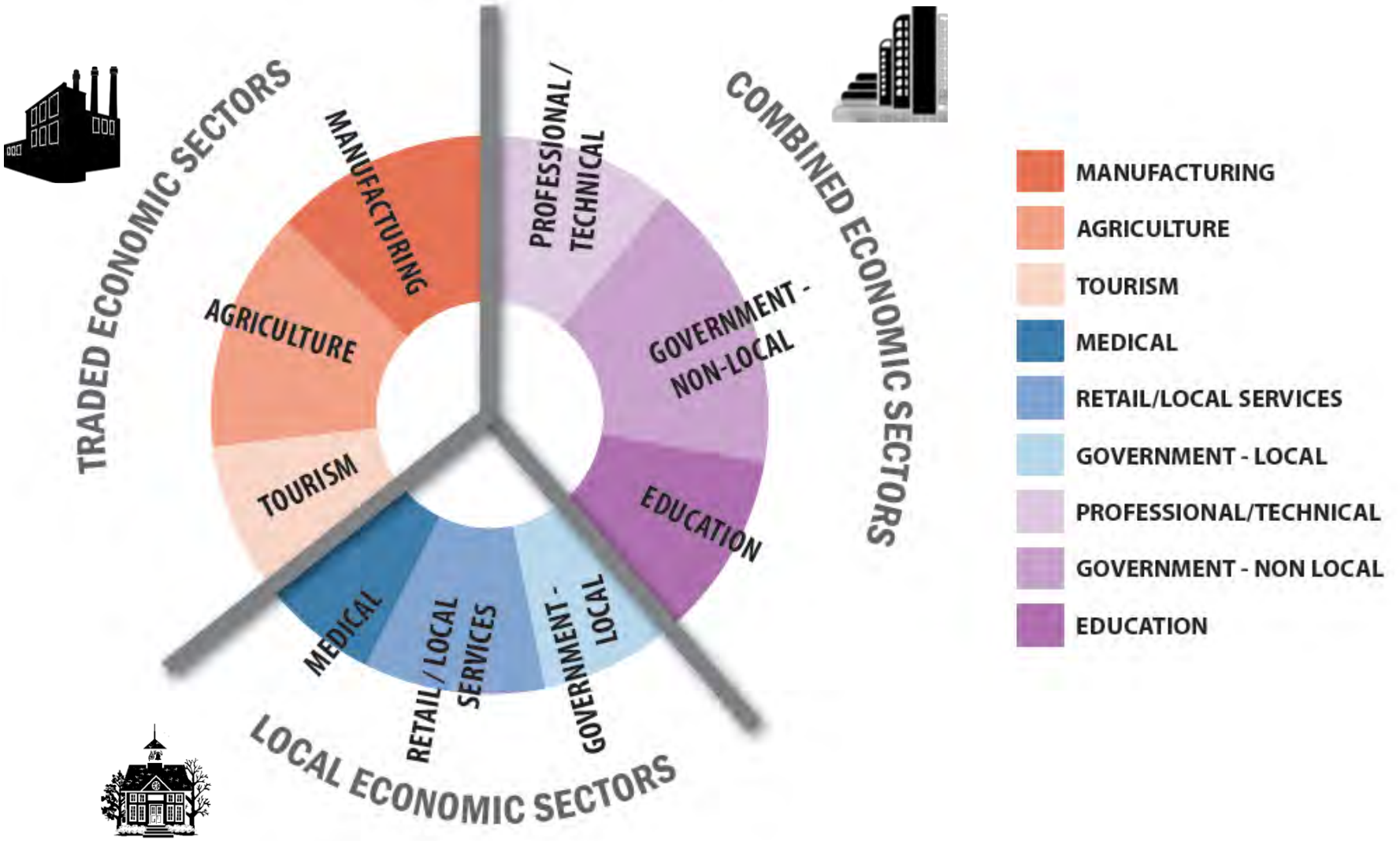
ECONOMIC-TRANSPORTATION LINKAGES | INDUSTRY CLUSTERS



Economic-Transportation Linkages | Transportation

Different industry clusters have different *Needs*, *Opportunities* and *Constraints* for efficient transportation

Knowledge-Based

- Mixed-use development
- Walking between destinations
- Traditional peak commute times
- Airport access

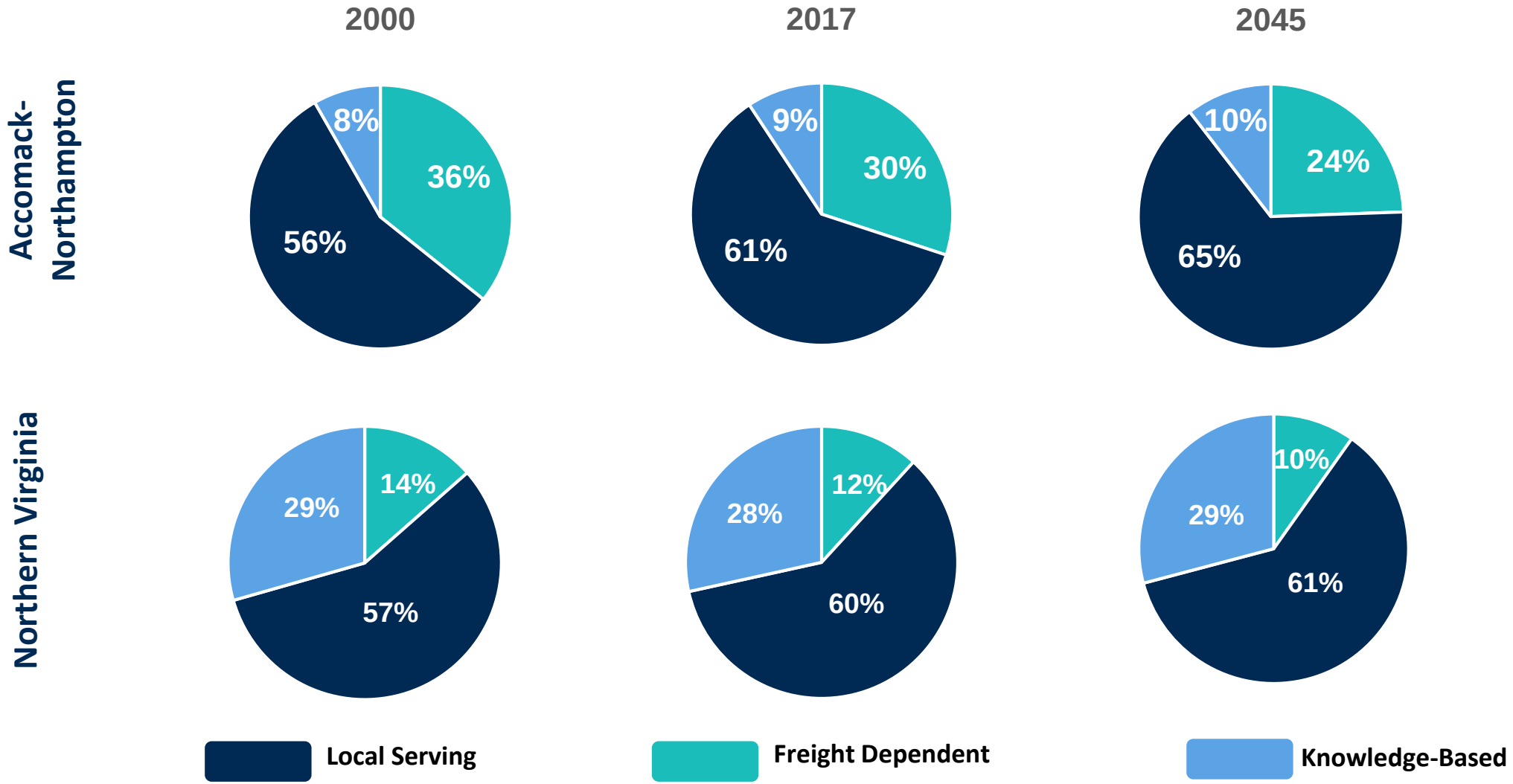
Local Serving

- Different peak commute times
- Customer traffic
- Trip-chaining destinations
- Truck deliveries

Freight Dependent

- Shift hours
- Truck origins and destinations
- Rail, port and/or airport access
- Remote locations

DEMOGRAPHIC TRENDS: EXAMPLE PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council and OIPI.

Travel Markets Overview

- **Corridors of Statewide Significance (CoSS)** [Code of Virginia § 33.2-35]
  - Serve inter-regional travel
- **Regional Networks** [Code of Virginia in in § 33.2-353]
  - Serve commuters, intra-regional, and local travel
- **Urban Development Areas (UDA)** [Code of Virginia § 33.2-353 and § 15.2-2223.1]
  - Designated by local governments
  - Intended to promote walkable development and traditional neighborhood design

Corridors of Statewide Significance*

- Coastal Corridor
- Crescent Corridor
- East-West Corridor
- Eastern Shore Corridor
- Heartland Corridor
- North Carolina to West Virginia Corridor
- North-South Corridor
- Northern Virginia Corridor
- Seminole Corridor
- Southside Corridor
- Washington to North Carolina Corridor
- Western Mountain Corridor

*Thin lines of same color represent Corridor Component Facilities

- Airports
- Ports
- Rail Network

Travel Markets:

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Travel Markets:

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*Thin lines of same color represent Corridor Component Facilities

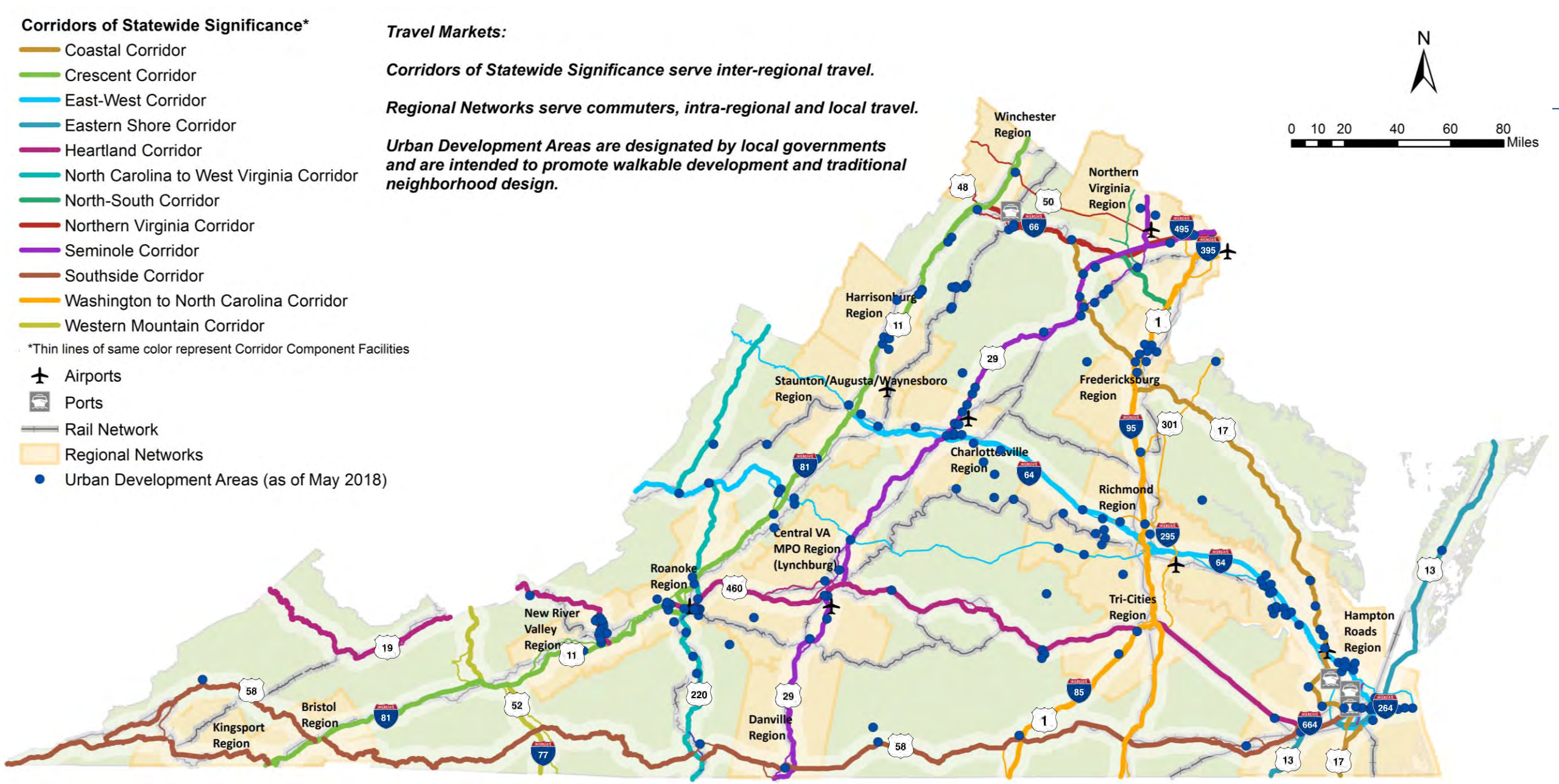
- Airports
- Ports
- Rail Network
- Regional Networks
- Urban Development Areas (as of May 2018)

Travel Markets:

Corridors of Statewide Significance serve inter-regional travel.

Regional Networks serve commuters, intra-regional and local travel.

Urban Development Areas are designated by local governments and are intended to promote walkable development and traditional neighborhood design.



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Mid-Term Needs Approach:

- Validate and build upon needs identified in VTrans2040
- Introduce new/improved data sources and new measures in line with federal performance reporting requirements
- Tie measures to VTrans Goals and Objectives
- Coordinate with regional and local stakeholders to update needs

Mid-Term Needs Approach by Travel Markets:

- CoSS – more data-driven, smaller segments than last time
- RN – build on VTrans2040, verify, update, confirm/revise
- UDA – build on VTrans2040, verify, update, confirm/revise
- Safety – Potential for Safety Improvements (PSI)

Travel Markets & Mid-Term Needs Analysis

	CoSS	Regional Networks	UDA	Safety (Statewide)
Starting Point	Full Analysis of CoSS	VTrans2040 RN needs	VTrans2040 UDA needs	Full analysis of PSI locations
How will measures be used?	Identification of new needs	Validation of previously identified needs and identification of new needs	Needs must support UDA legislative requirements (§ 15.2-2223.1)	Identification of new needs
Stakeholder engagement required	Review and comment on identified needs	Regional workshops for needs identification with MPOs, PDCs, and localities	Survey/Needs questionnaire with localities	Review and comment on identified needs

VTrans Goals

VTrans2040 Goals

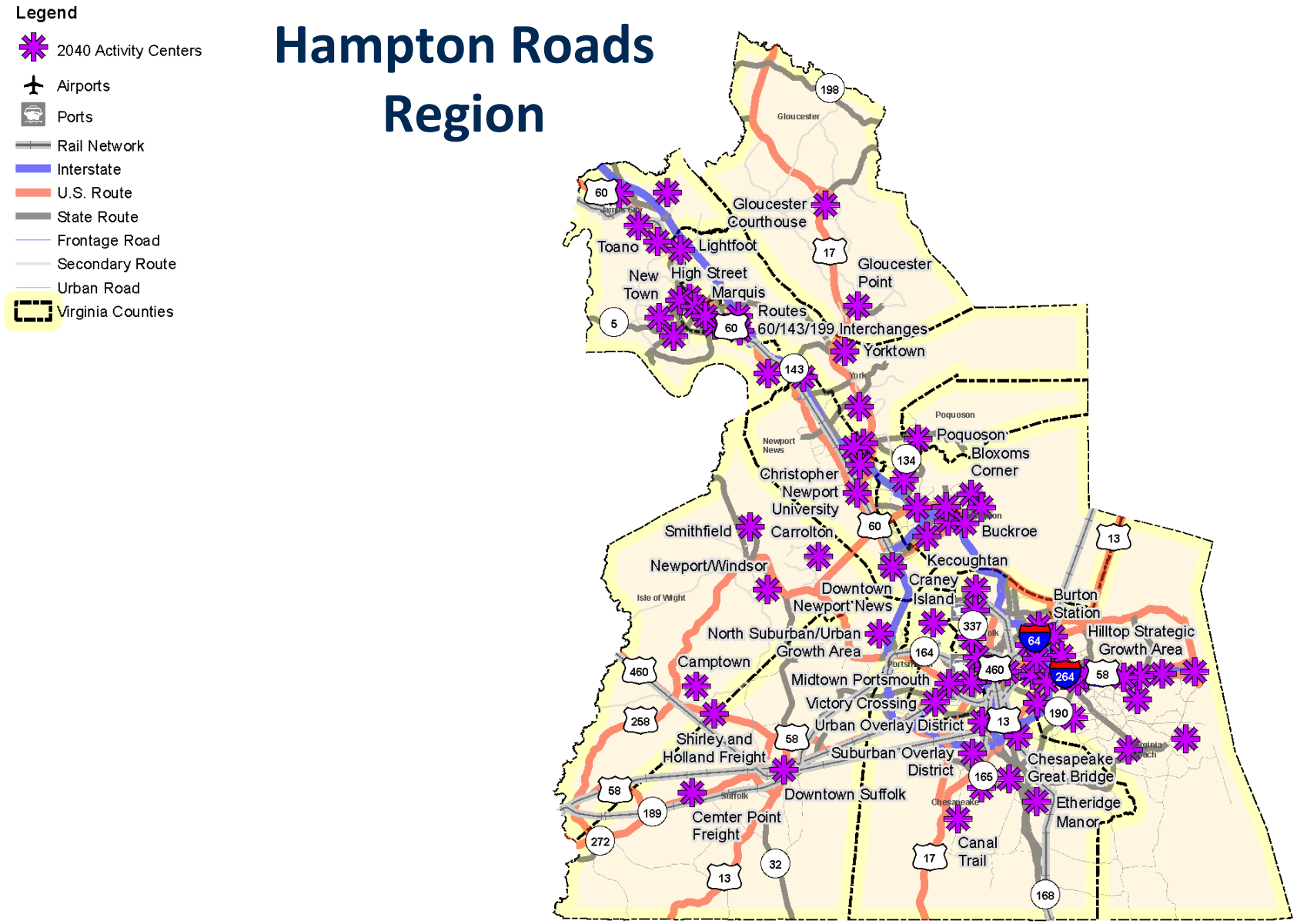
DRAFT - Mid-Term Needs Identification Measures

Goal	Mid-Term Needs Measures	CoSS	Regional Network	UDA	Safety
A	Throughput	✓			
A	Travel Time	✓	✓*		
A	Person Delay During Unreliable Conditions (PDDUC)**	✓			
A	Interstate: Heavy/medium truck*** vehicle hours of delay per lane mile	✓			
B	[Accessibility measures – to be determined]		✓		
B	Disadvantaged communities beyond ¼ mile access to transit		✓		
C	PSI – Potential for safety improvements, (top X percentile and with minimum of Y crashes)	✓	✓		✓

*** Based on availability of data**
**** Multiply the volume by the travel time beyond the 50th percentile for segment and time period**
***** Vehicles defined in federal vehicle classification scheme as Class 5 or greater**

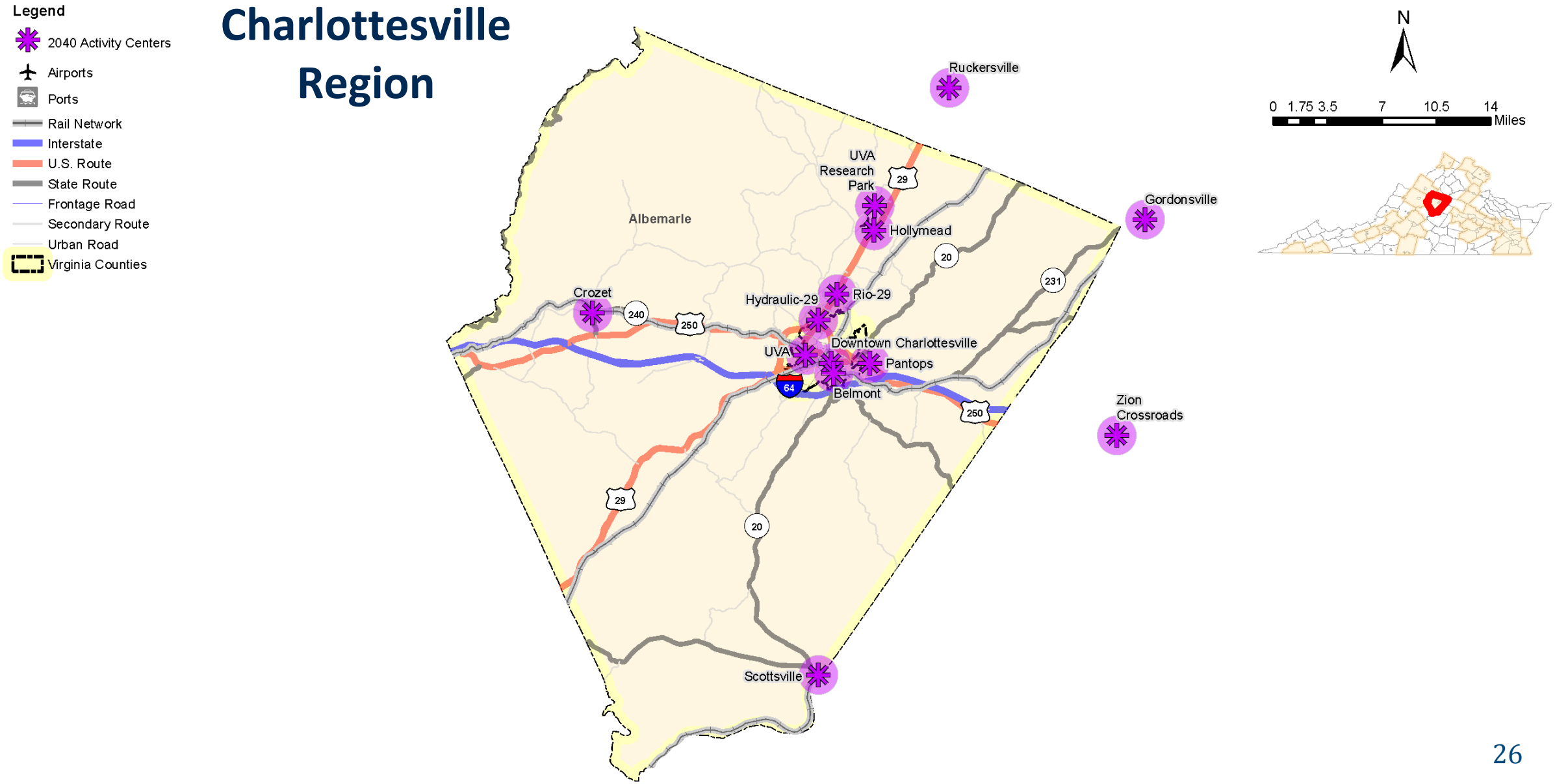
REGIONAL NETWORKS | EXAMPLE ACTIVITY CENTERS

Hampton Roads Region



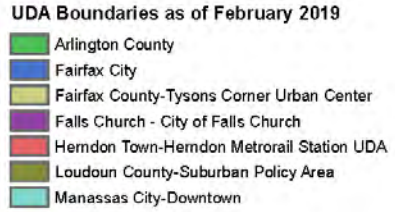
REGIONAL NETWORKS | EXAMPLE ACTIVITY CENTERS

Charlottesville Region



EXAMPLE URBAN DEVELOPMENT AREAS

Northern Virginia



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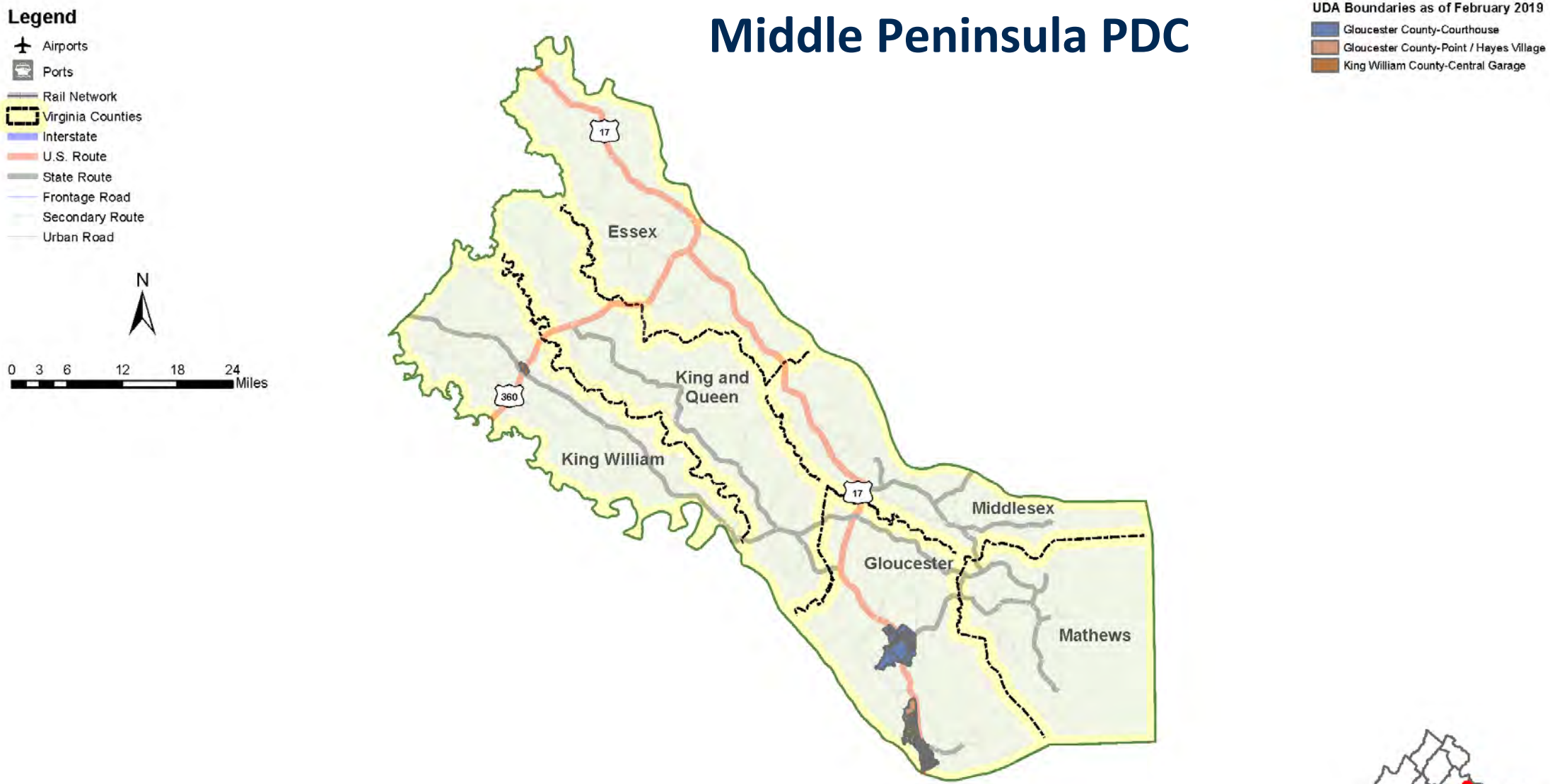


Middle Peninsula

UDA Needs Update Process Overview

- If you have or plan to have a UDA:
  - Verify UDA Contact Name and info
  - Verify UDA list
  - Verify UDA boundaries
  - Submit updated UDA boundary shapefiles (if needed)
  - Submit new UDA boundary shapefiles
  - Complete UDA Needs Questionnaire

PSI-Based Safety Needs Approach

- Historic crash data being transferred to VDOT's current linearly-referenced network
- Thresholds under review
- Desire to update to focus on "worst of the worst"
- Discussing need/desire to harmonize HSIP & SMART SCALE/VTrans measures
- CTB will approve SMART SCALE measure

MPO Participation Timeline

Date	VTrans Task	MPO Role
May-early June	Presentations to MPO's	Provide feedback at MPO meetings
May 30th	**Webinar - same as presentation to MPOs**	**Provide feedback at MPO meetings; PDC role - profile feedback**
June 14th	Webinar on UDA methodology and Instructions to Localities	Watch webinar, ask questions as needed and be able to provide assistance to UDA locality contacts as needed
Mid June		Provide feedback on needs measures and methodology
July-early August	Presentations to MPO's	Coordinate with MPO's as needed

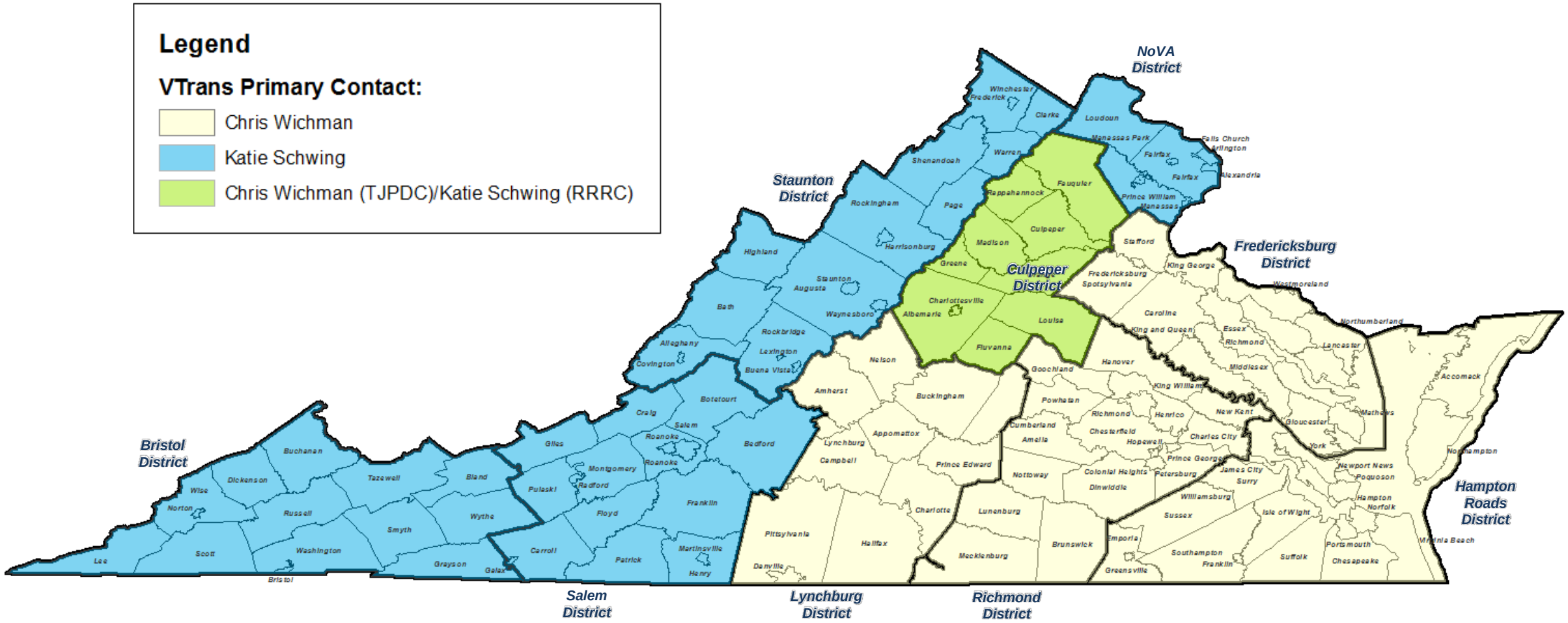
MPO Participation Timeline, Cont'd

Date	VTrans Task	MPO Role
Mid-July	Webinar - same as presentations to MPOs	Attend
Before September 1st	Draft Mid-Term Needs will be made available	Review
September 1st to early October	OIPI Staff will go out to MPO's to discuss the draft Mid-Term Needs	Attend
October 16th	October CTB meeting: Present draft needs and any feedback we've heard	N/A
December 11th	December CTB Meeting: CTB makes final approval on Vision, Goals, Objectives, measures, needs methodology, and Mid-term Needs list	N/A
Before end of 2019	OIPI will publish final approved list of Mid-Term Needs	N/A

Feedback Requests Checklist

- ☑ Share performance measures to be used for Needs Identification (today's meeting)
- ☐ Confirm activity centers (ongoing & July regional workshop)
- ☐ Confirm presence of UDAs and UDA contacts (ongoing with localities)

VTrans Designated Points of Contact



QUESTIONS/DISCUSSION

OIPI Staff Contact Information:

Name	Phone	Email
Jitender Ramchandani	804.786.0868	Jitender.Ramchandani@oipi.Virginia.gov
Katie Schwing	804.786.2362	Kathryn.Schwing@oipi.Virginia.gov
Chris Wichman	804.786.2366	Chris.Wichman@oipi.Virginia.gov

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THANK YOU!

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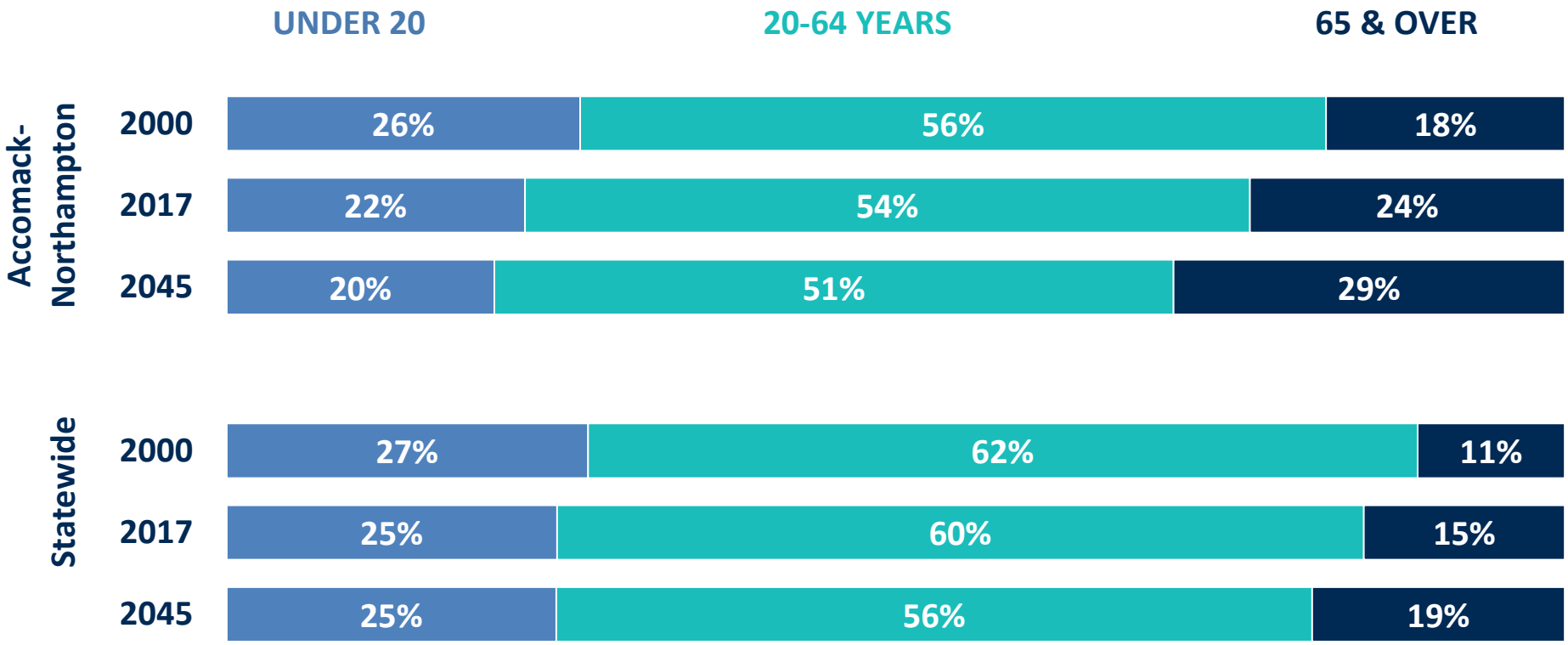
APPENDIX

- Supplemental slides for more detailed PDC-specific information

Demographic Trends: Age Distribution by PDC

Accomack-Northampton PDC



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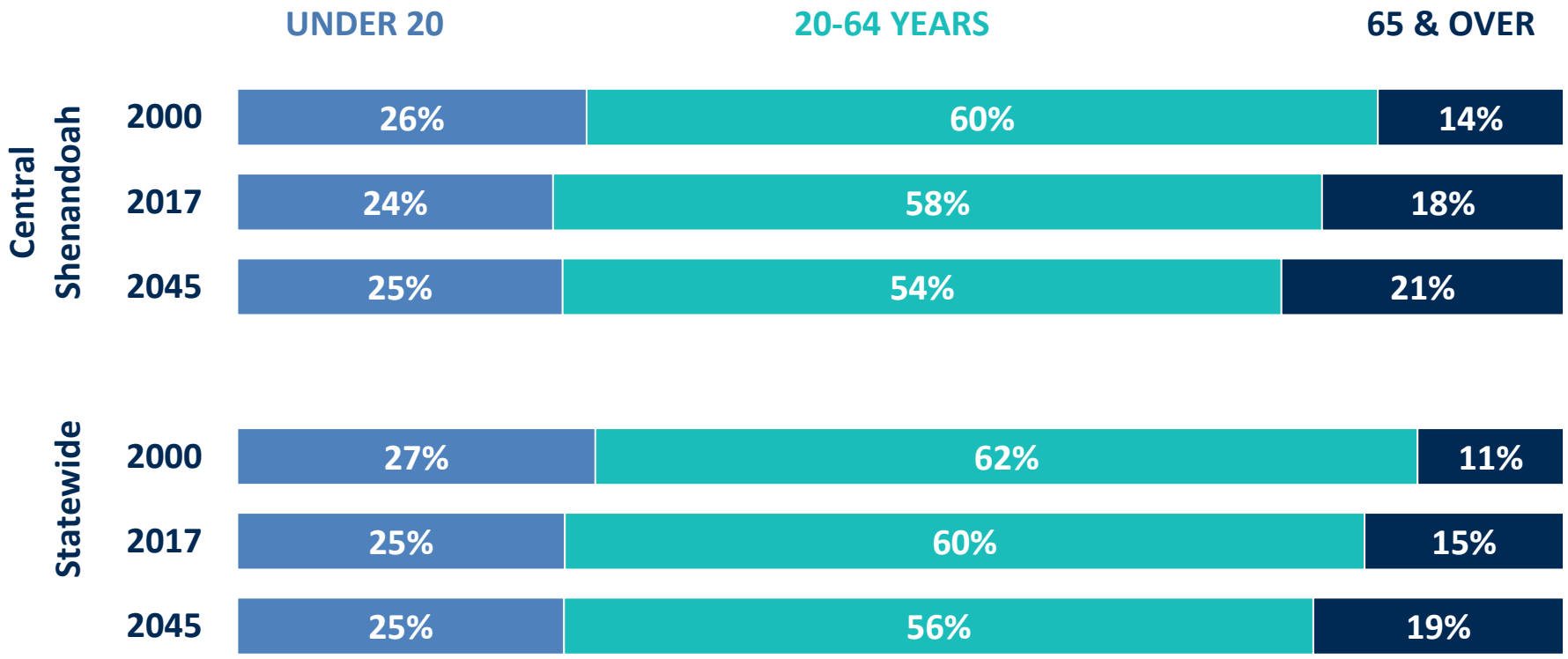
Demographic Trends: Age Distribution by PDC

Central Shenandoah PDC



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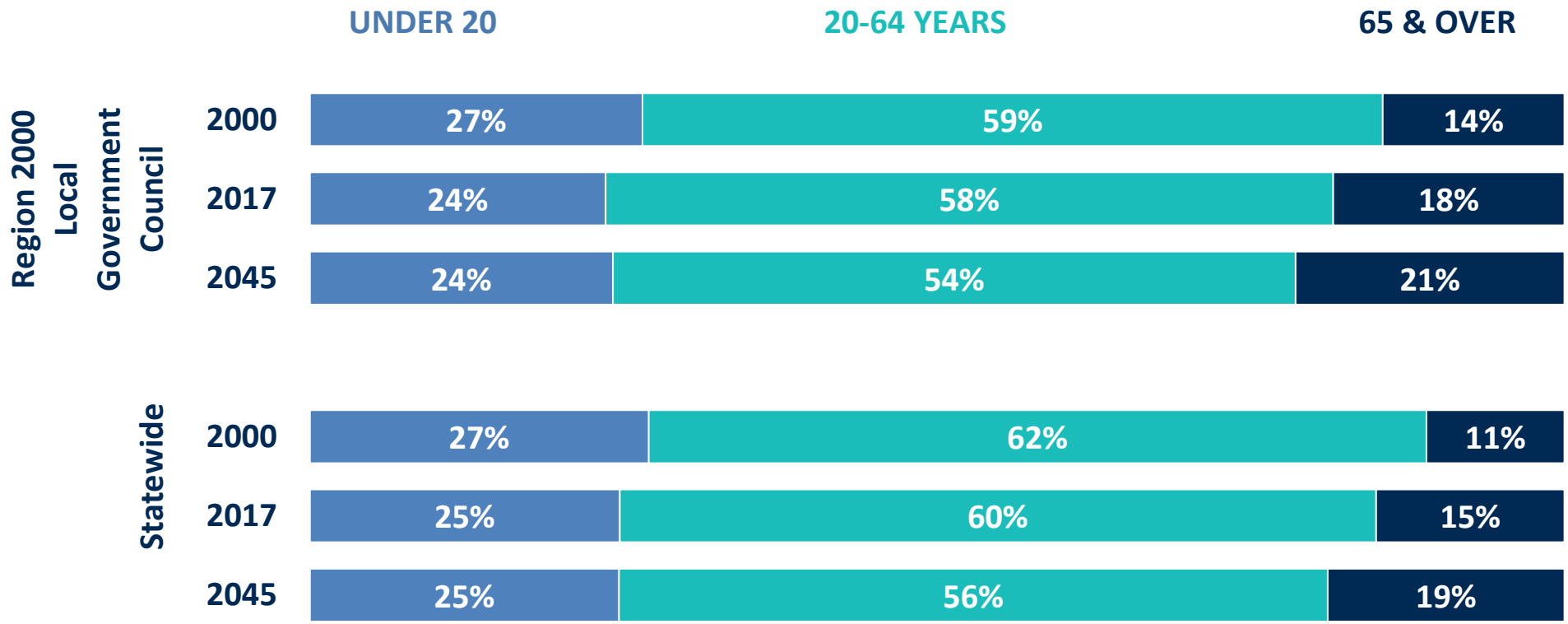

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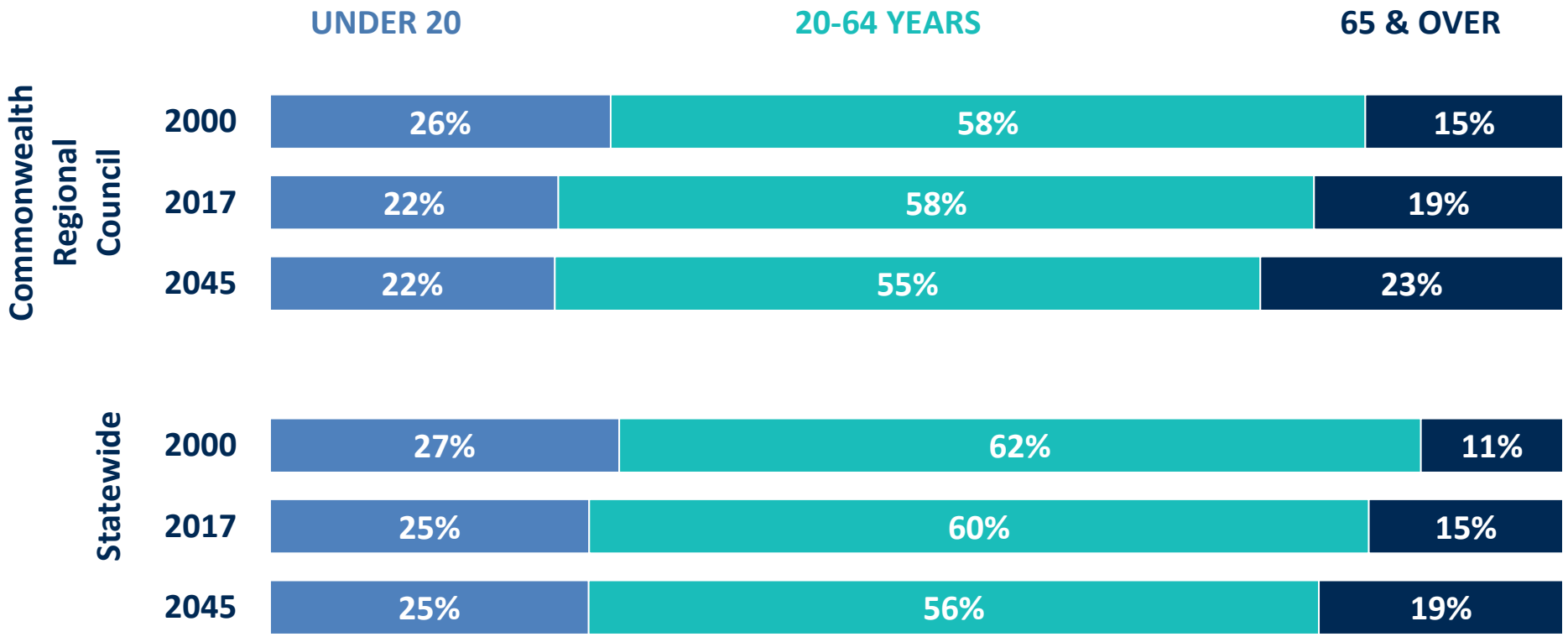
Commonwealth Regional Council



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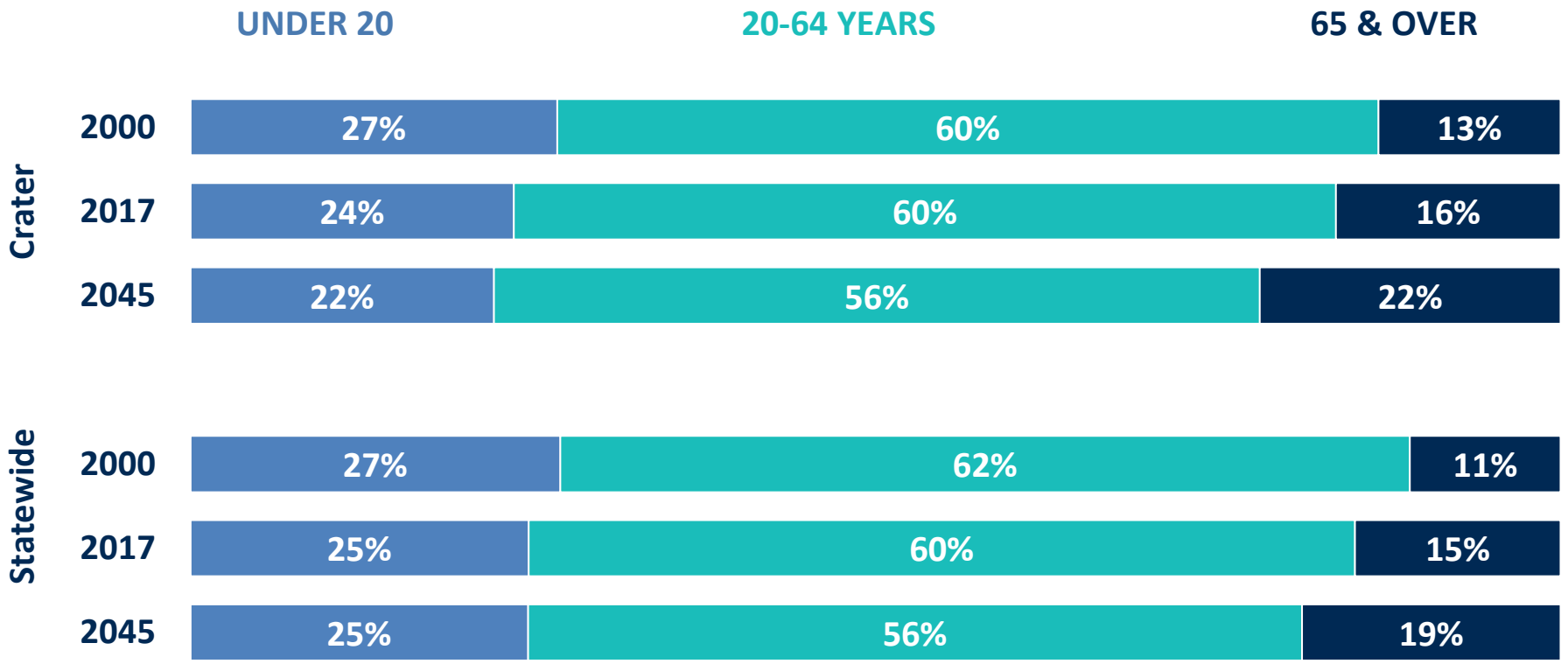
Crater PDC



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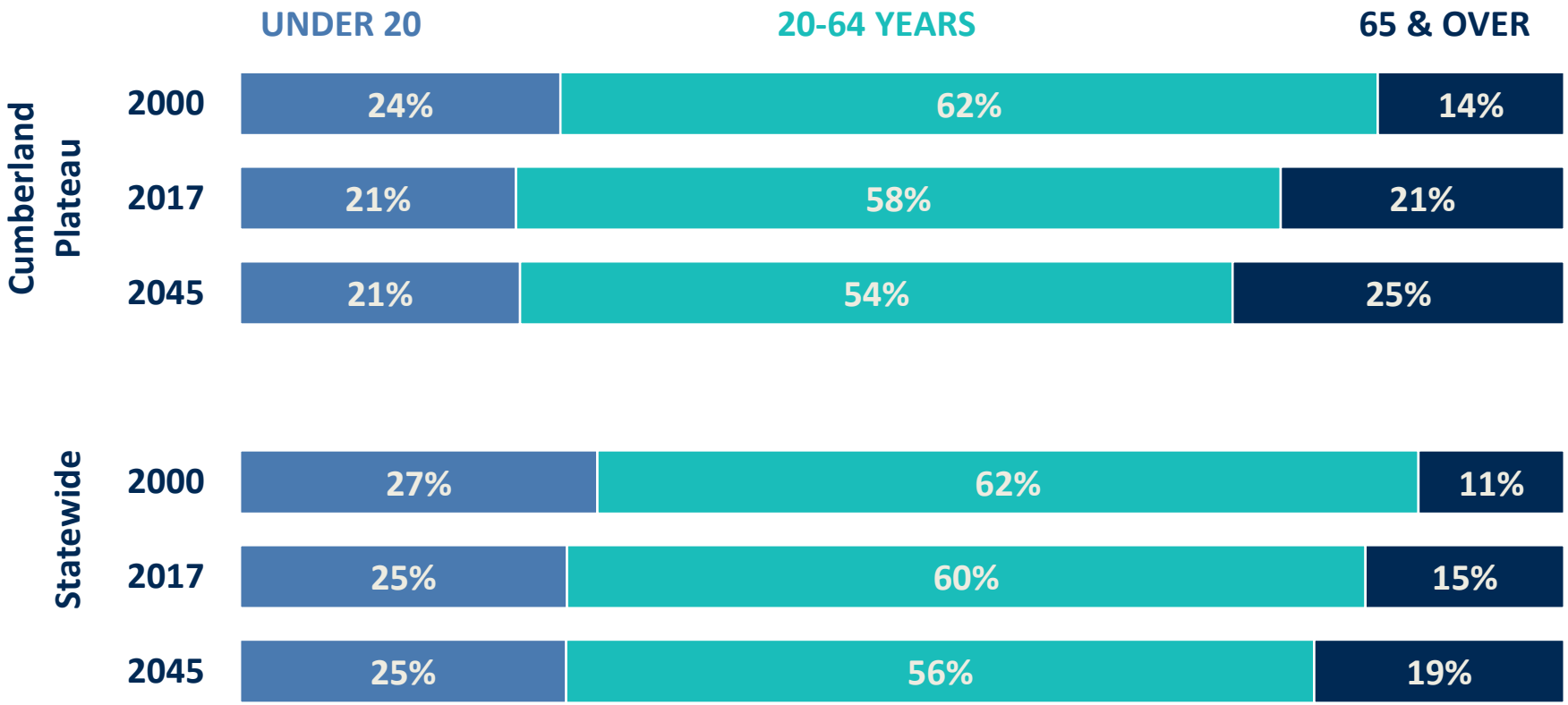
Cumberland Plateau PDC



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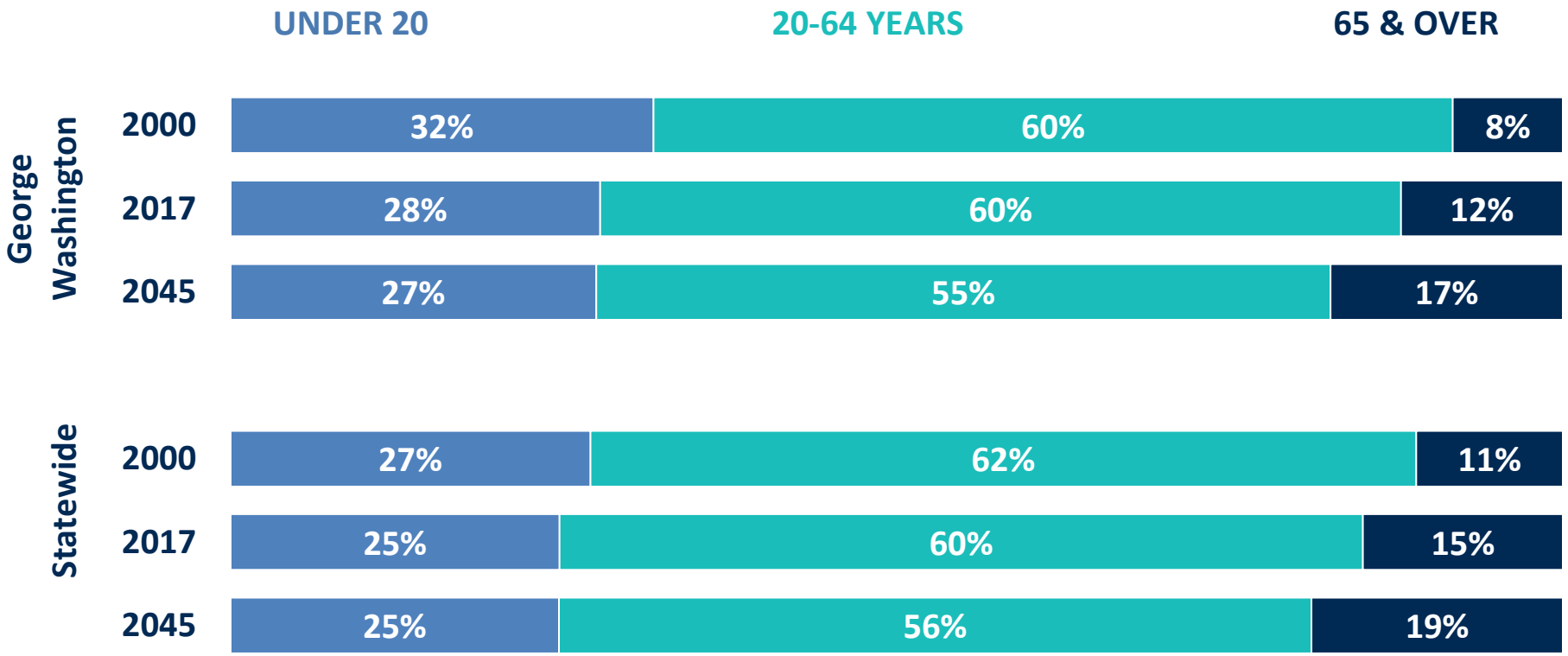
George Washington RC



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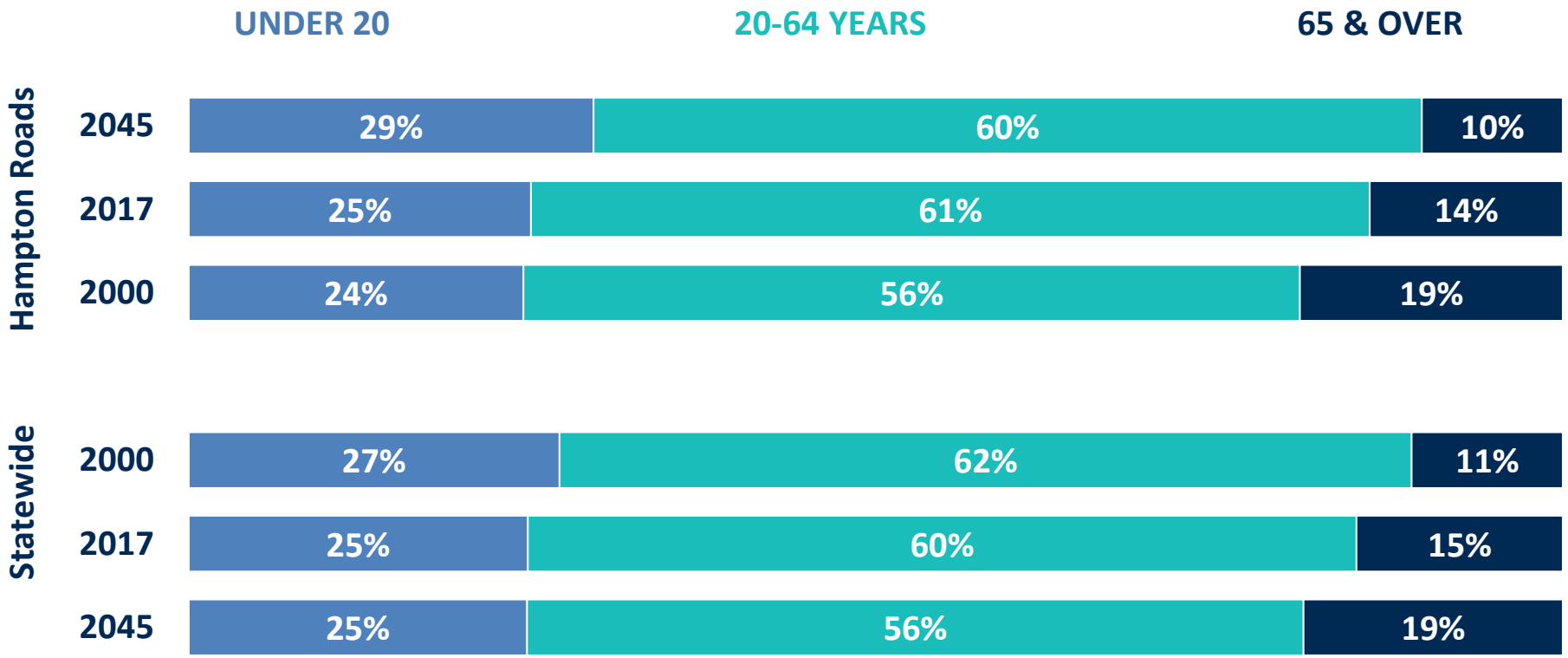

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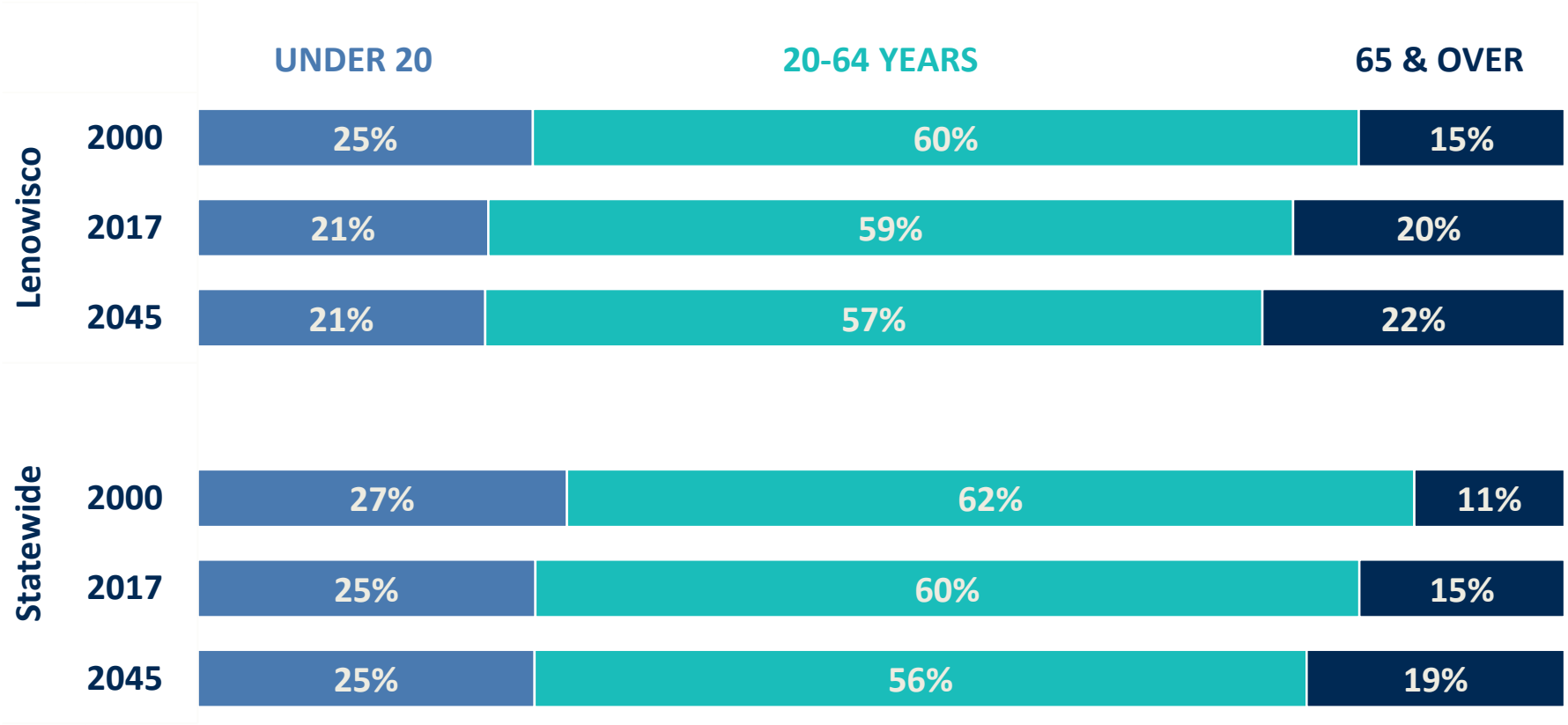

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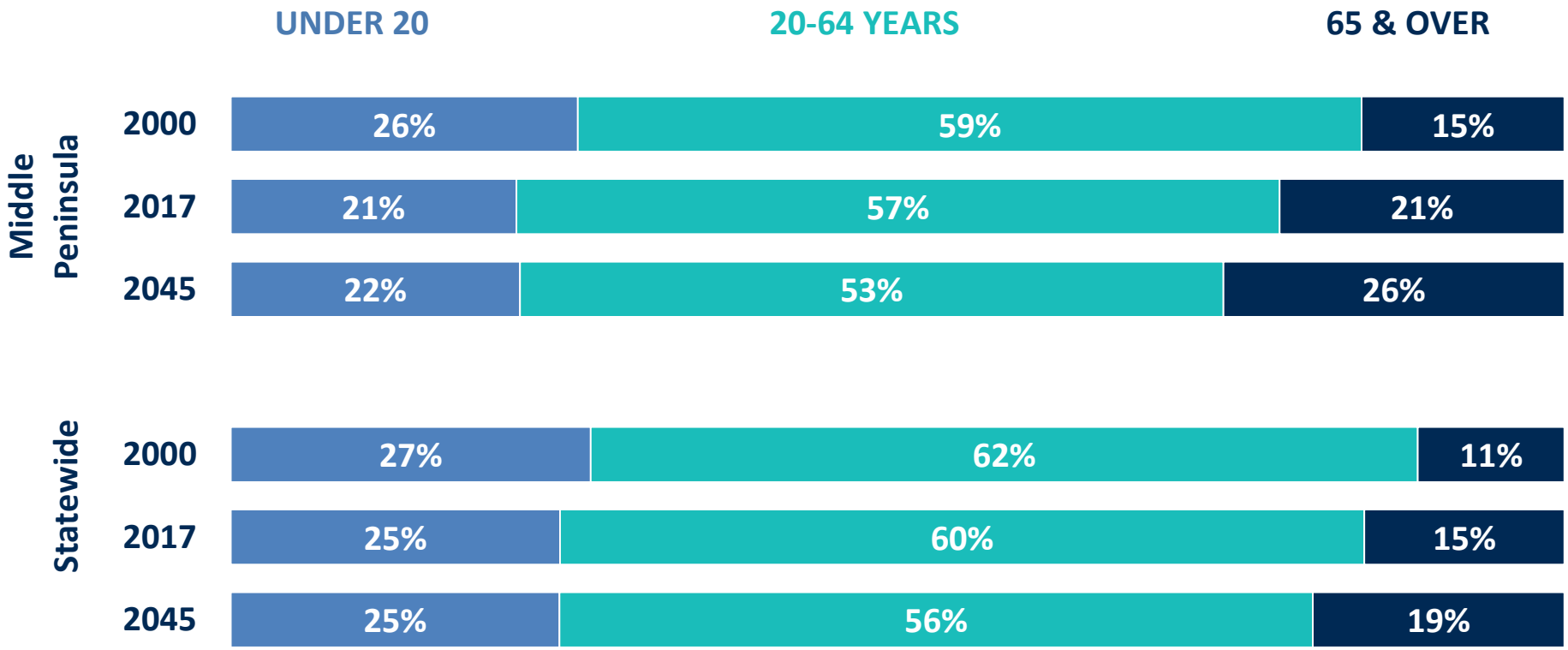
Middle Peninsula PDC



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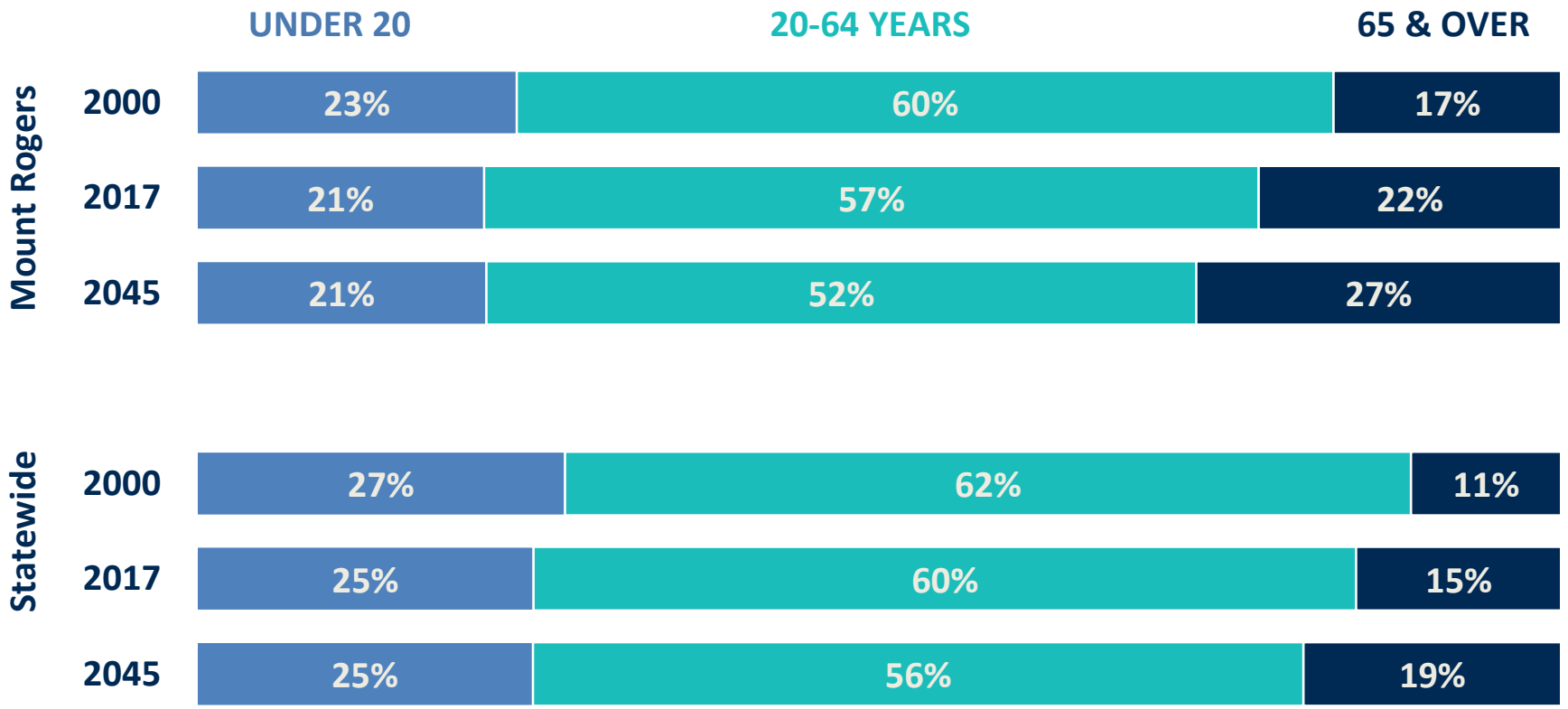
Mount Rogers PDC



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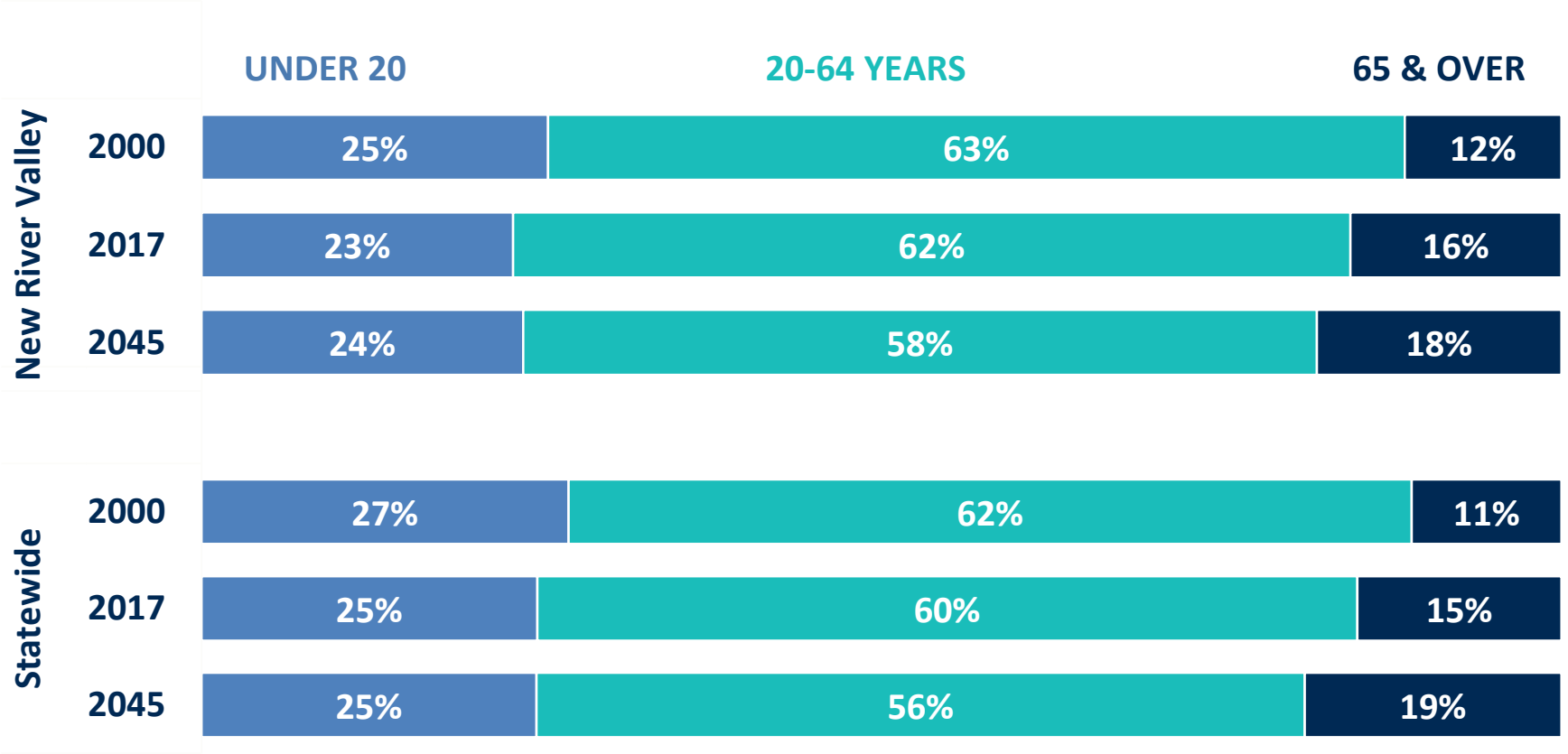
New River Valley RC



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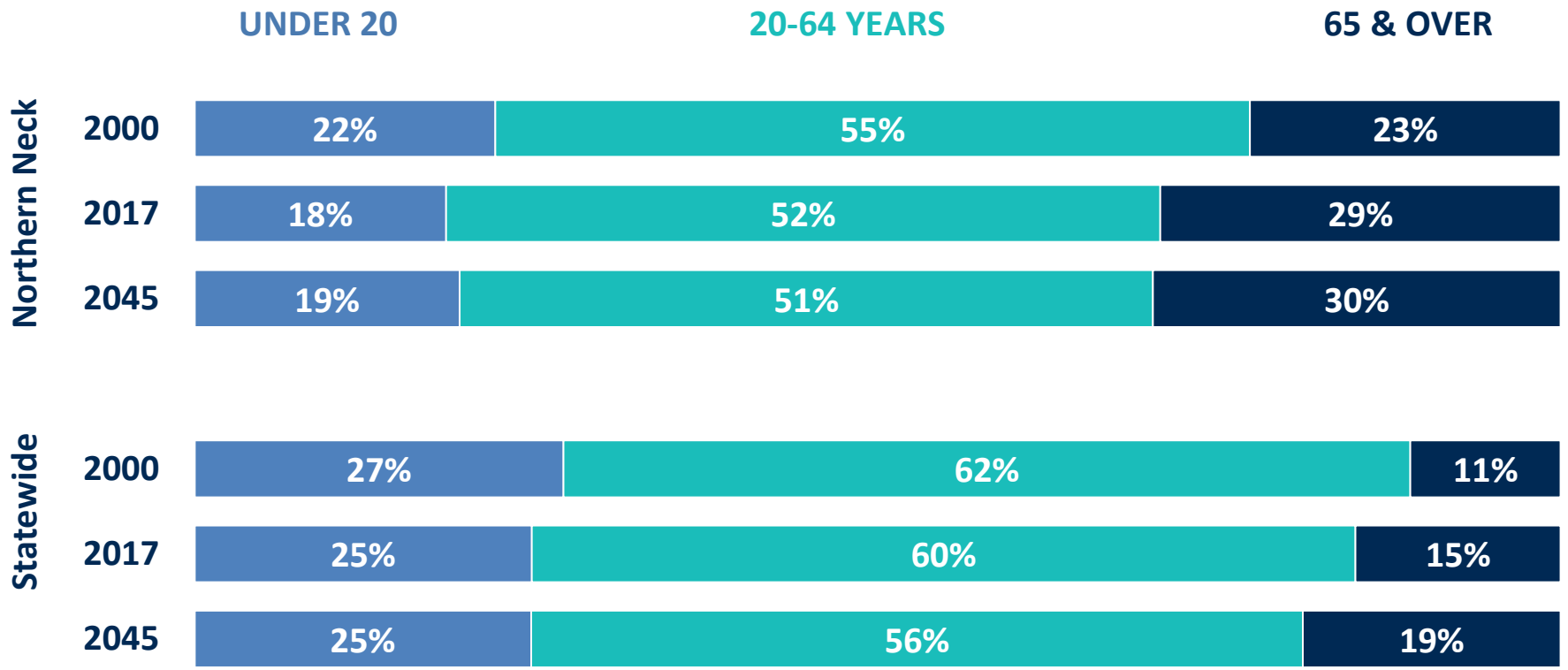
Northern Neck PDC



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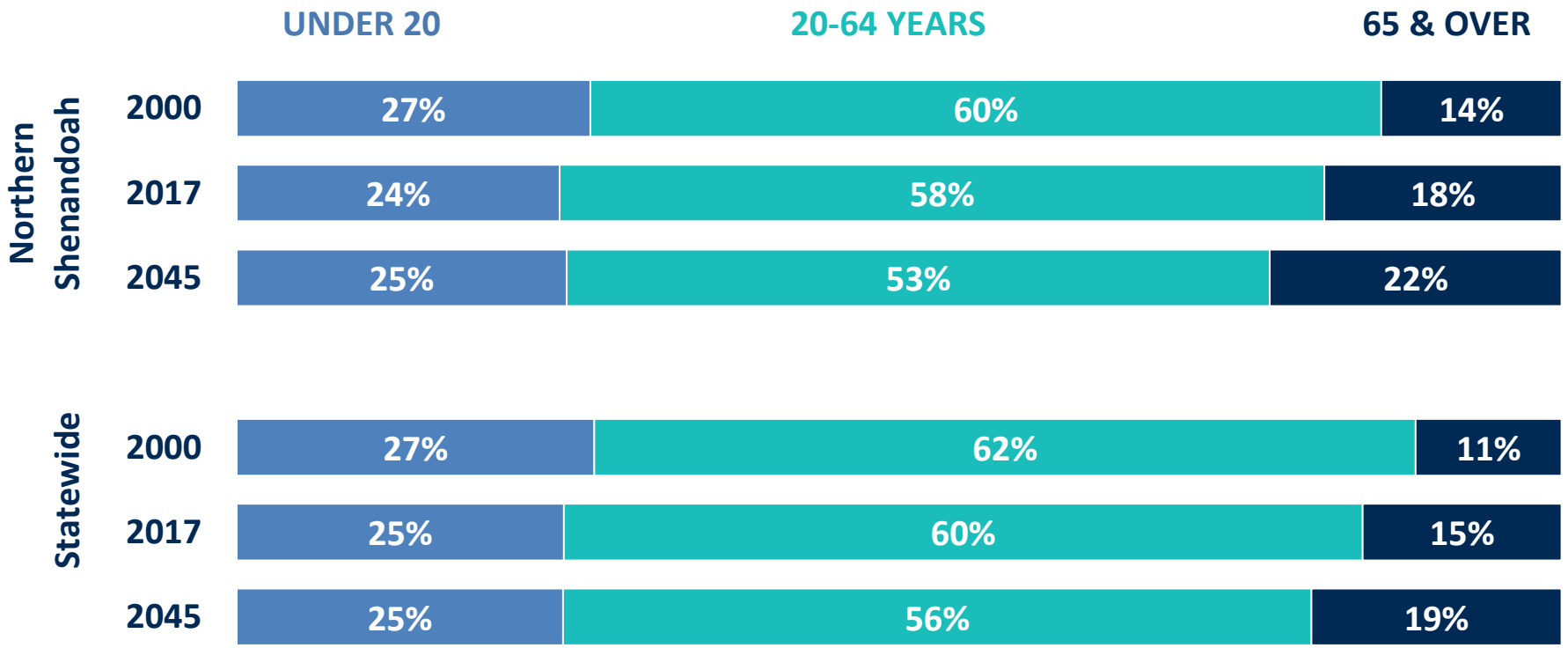
Demographic Trends: Age Distribution by PDC

Northern Shenandoah Valley RC

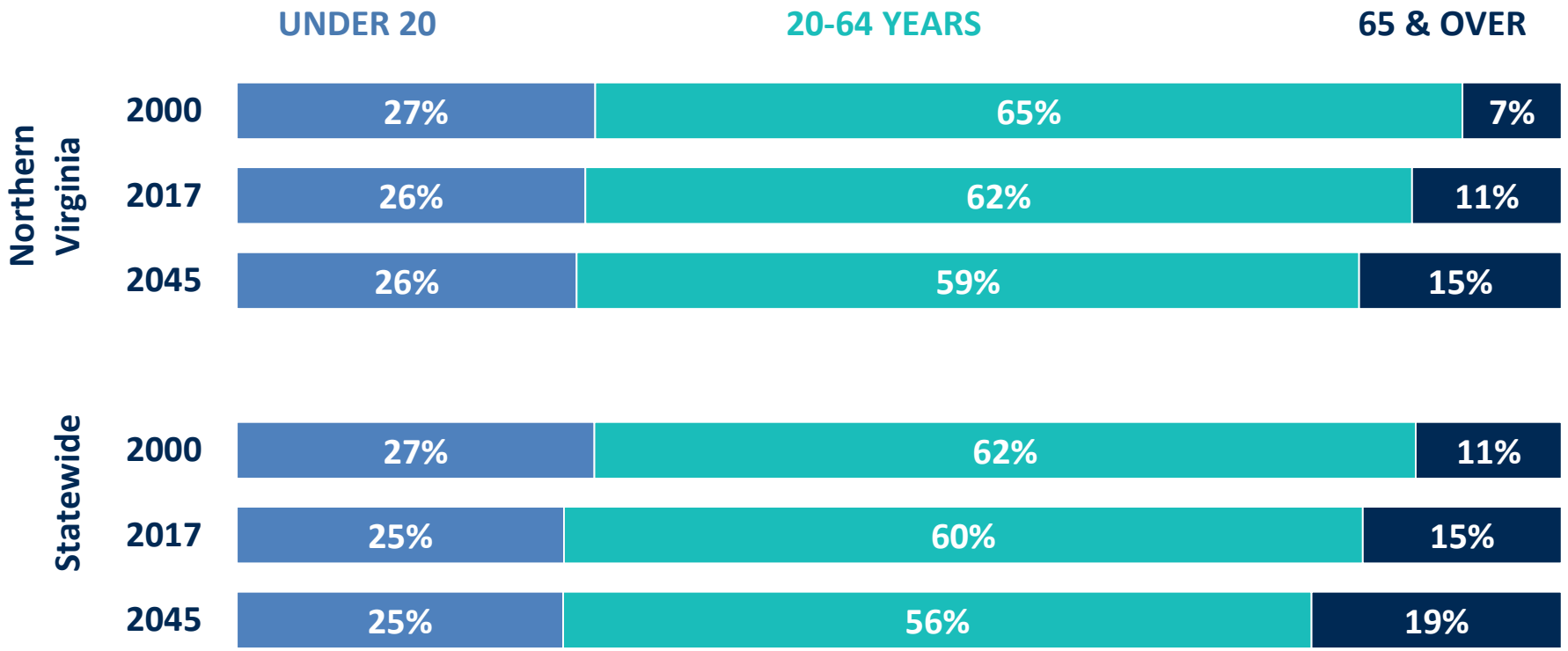


VTRANS | VIRGINIA'S TRANSPORTATION PLAN

Source: Data provided by Weldon Cooper Center for Public Service. Analysis by the Virginia Transportation Research Council.

Demographic Trends: Age Distribution by PDC

Northern Virginia RC

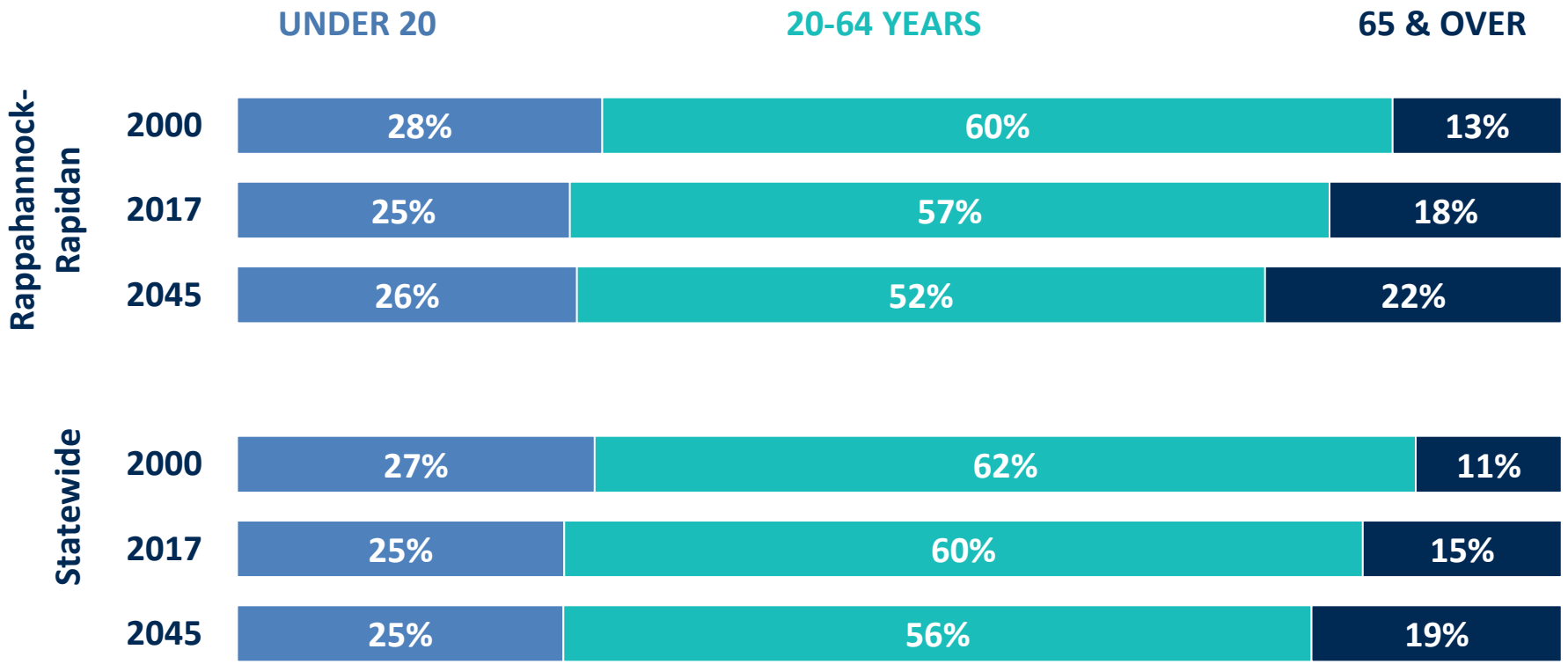


VTRANS | VIRGINIA'S TRANSPORTATION PLAN

Source: Data provided by Weldon Cooper Center for Public Service. Analysis by the Virginia Transportation Research Council.

Demographic Trends: Age Distribution by PDC

Rappahannock-Rapidan RC

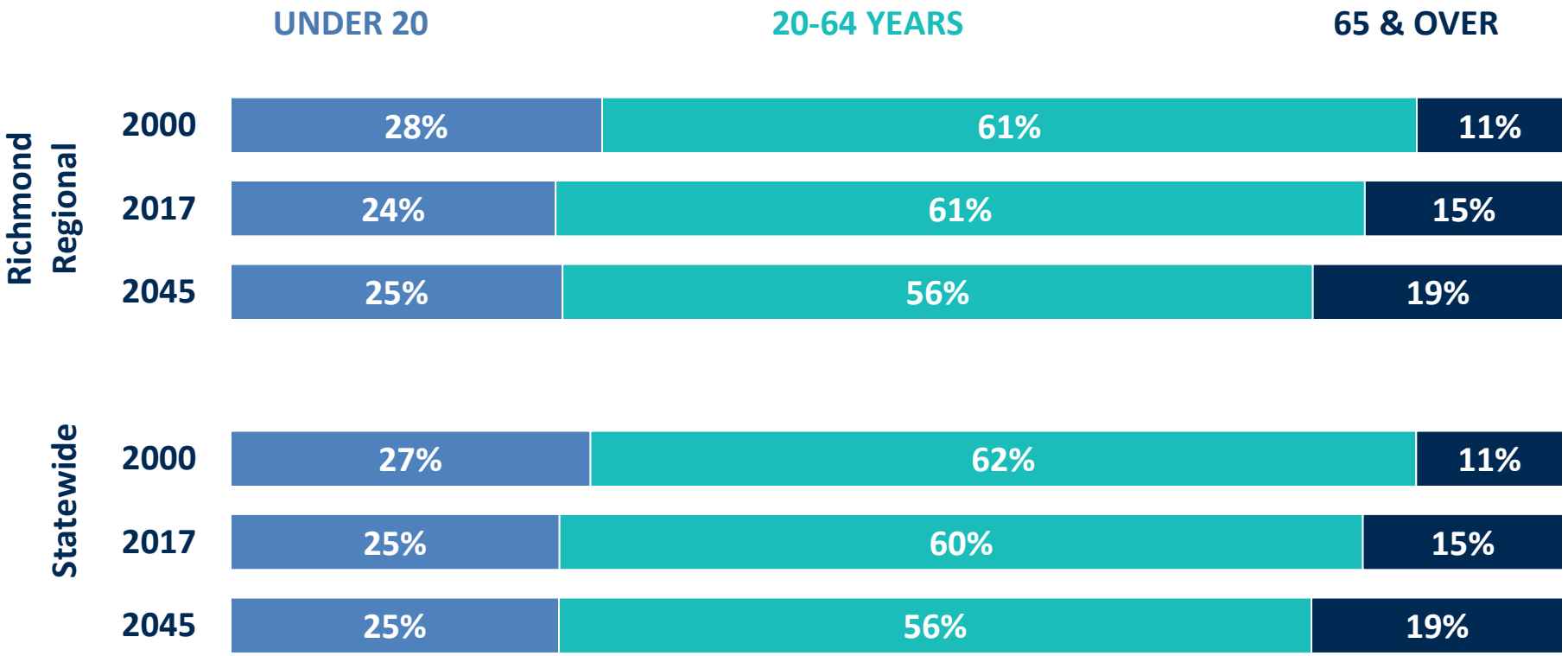


VTRANS | VIRGINIA'S TRANSPORTATION PLAN

Source: Data provided by Weldon Cooper Center for Public Service. Analysis by the Virginia Transportation Research Council.

Demographic Trends: Age Distribution by PDC

Richmond Regional PDC

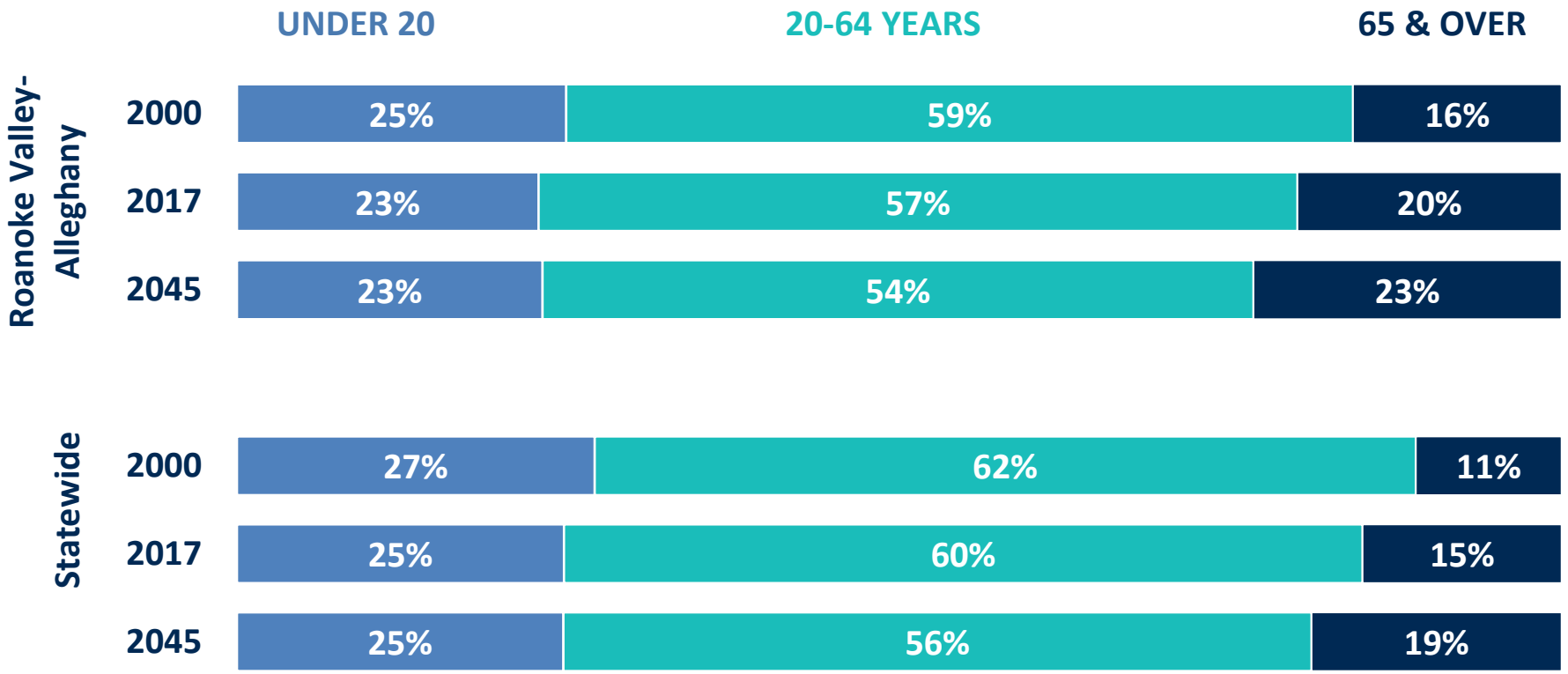


VTRANS | VIRGINIA'S TRANSPORTATION PLAN

Source: Data provided by Weldon Cooper Center for Public Service. Analysis by the Virginia Transportation Research Council.

Demographic Trends: Age Distribution by PDC

Roanoke Valley-Alleghany RC

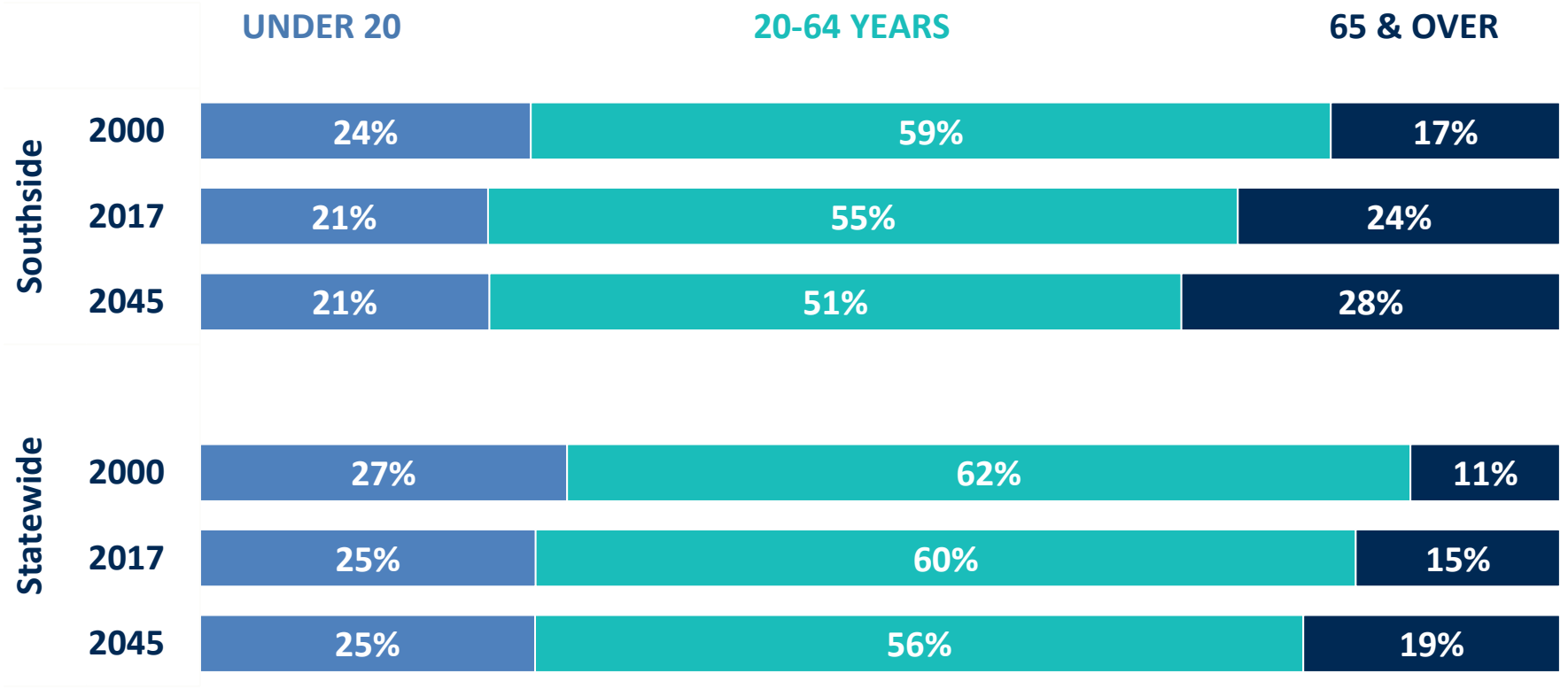


VTRANS | VIRGINIA'S TRANSPORTATION PLAN

Source: Data provided by Weldon Cooper Center for Public Service. Analysis by the Virginia Transportation Research Council.

Demographic Trends: Age Distribution by PDC

Southside PDC

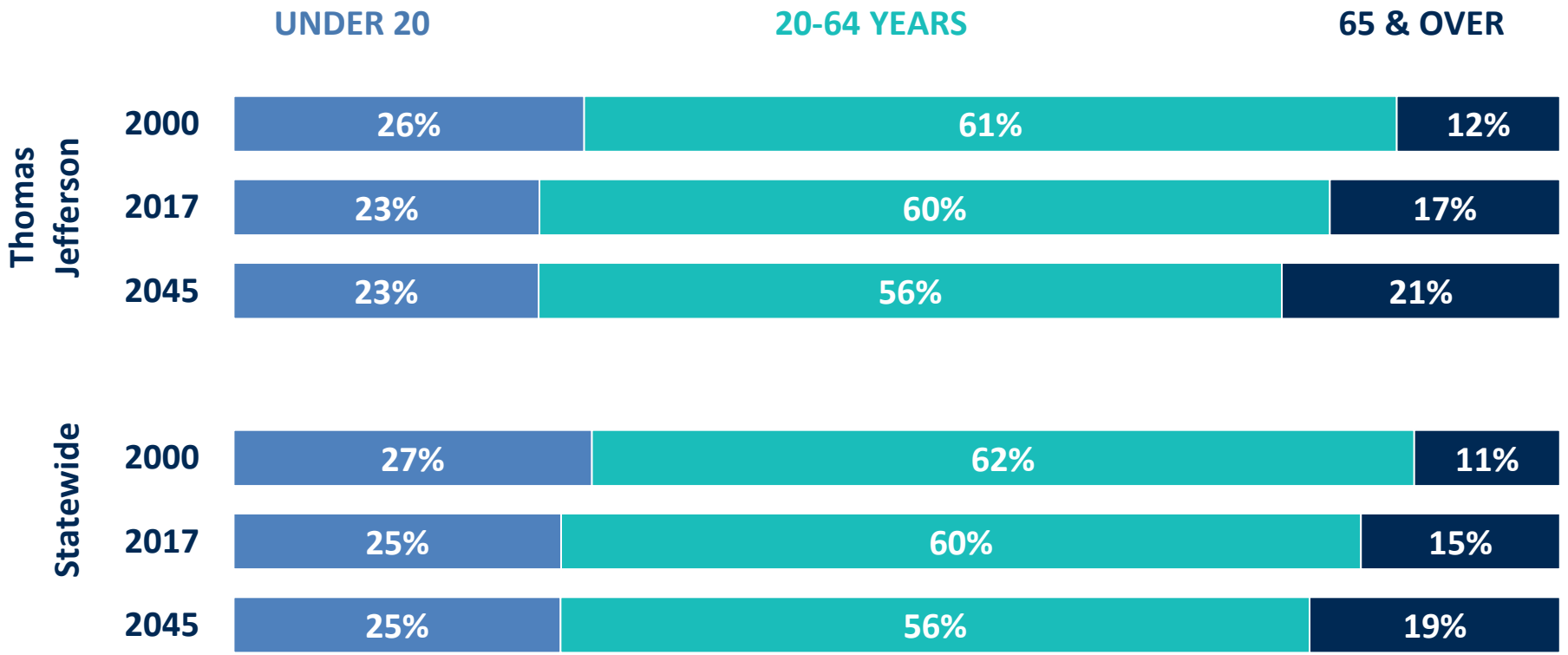


VTRANS | VIRGINIA'S TRANSPORTATION PLAN

Source: Data provided by Weldon Cooper Center for Public Service. Analysis by the Virginia Transportation Research Council.

Demographic Trends: Age Distribution by PDC

Thomas Jefferson PDC

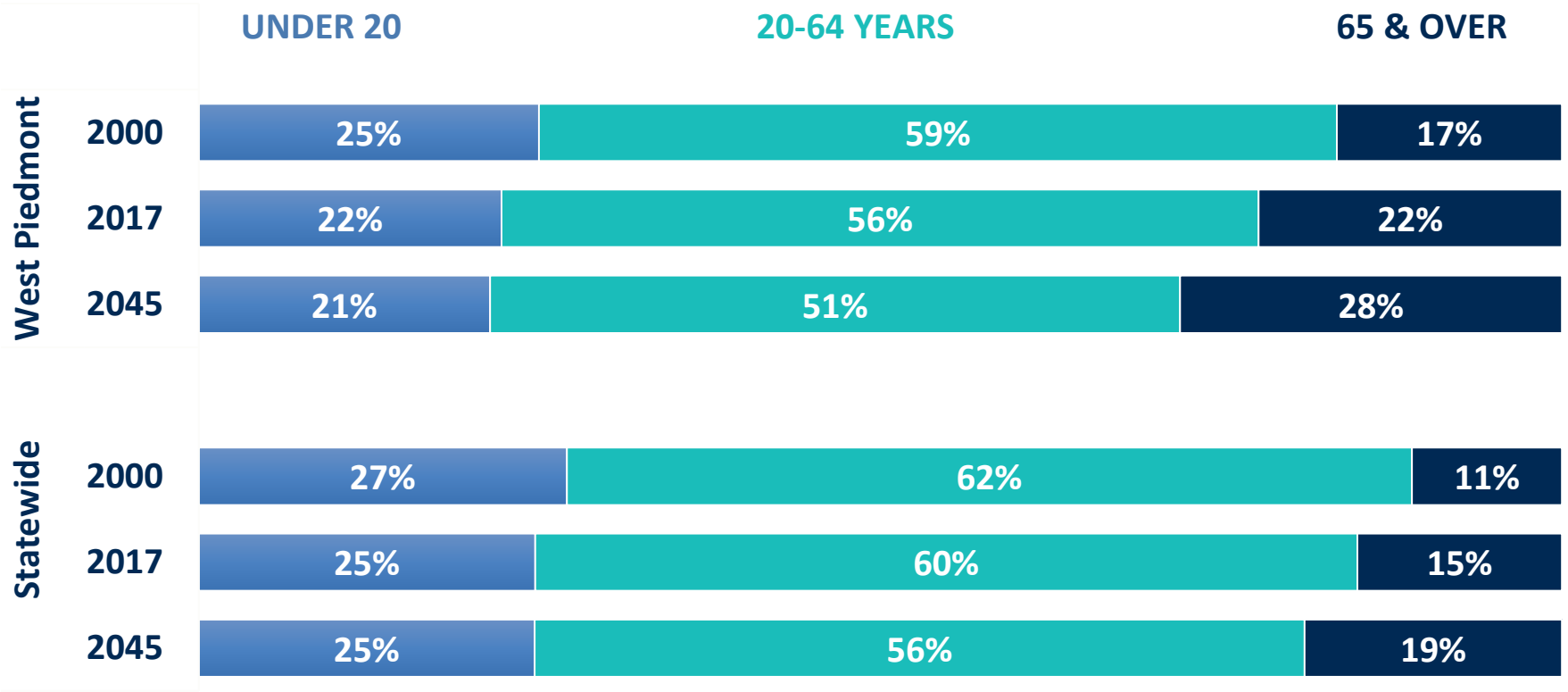


VTRANS | VIRGINIA'S TRANSPORTATION PLAN

Source: Data provided by Weldon Cooper Center for Public Service. Analysis by the Virginia Transportation Research Council.

Demographic Trends: Age Distribution by PDC

West Piedmont PDC

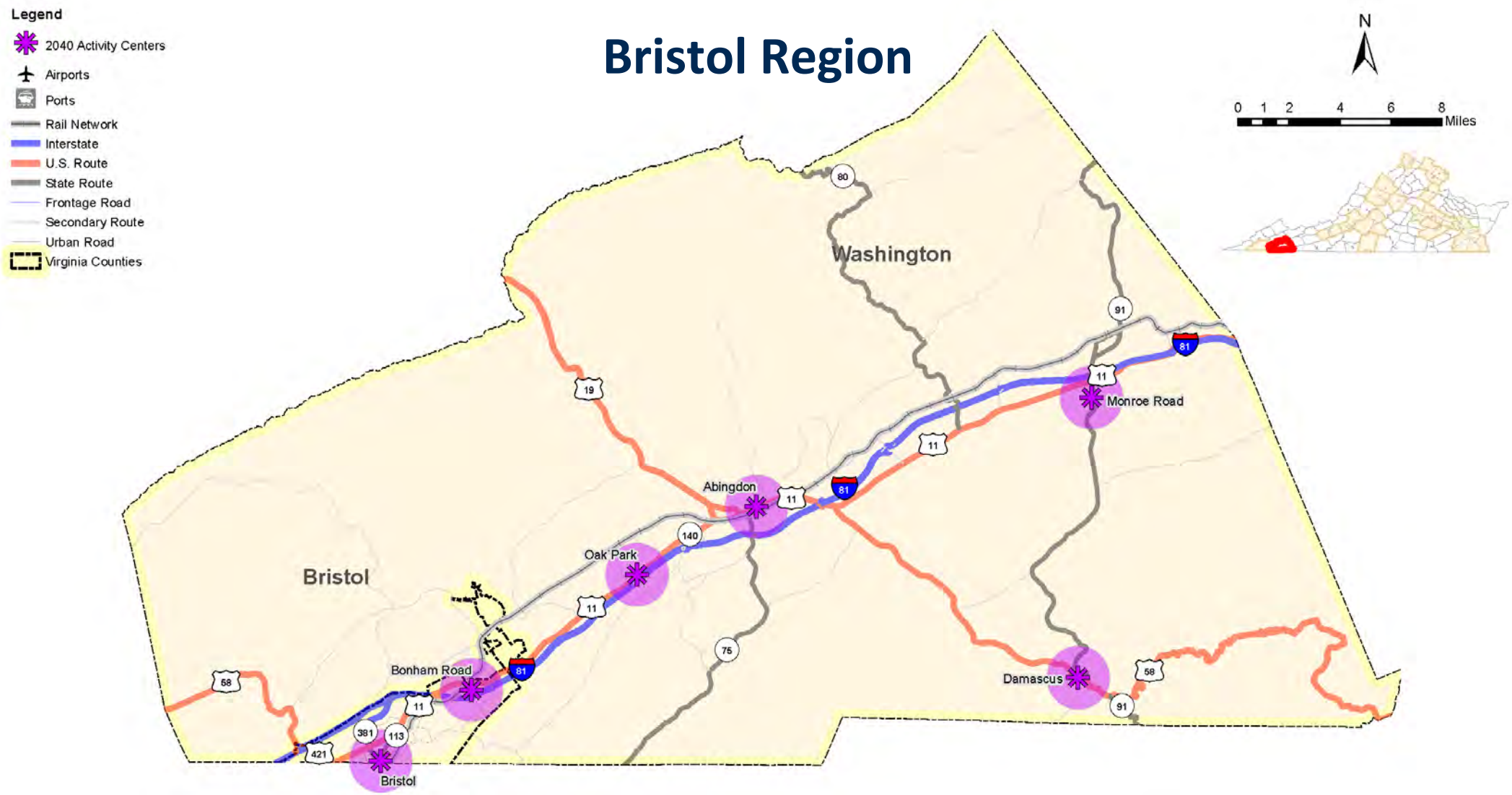


VTRANS | VIRGINIA'S TRANSPORTATION PLAN

Source: Data provided by Weldon Cooper Center for Public Service. Analysis by the Virginia Transportation Research Council.

ACTIVITY CENTERS

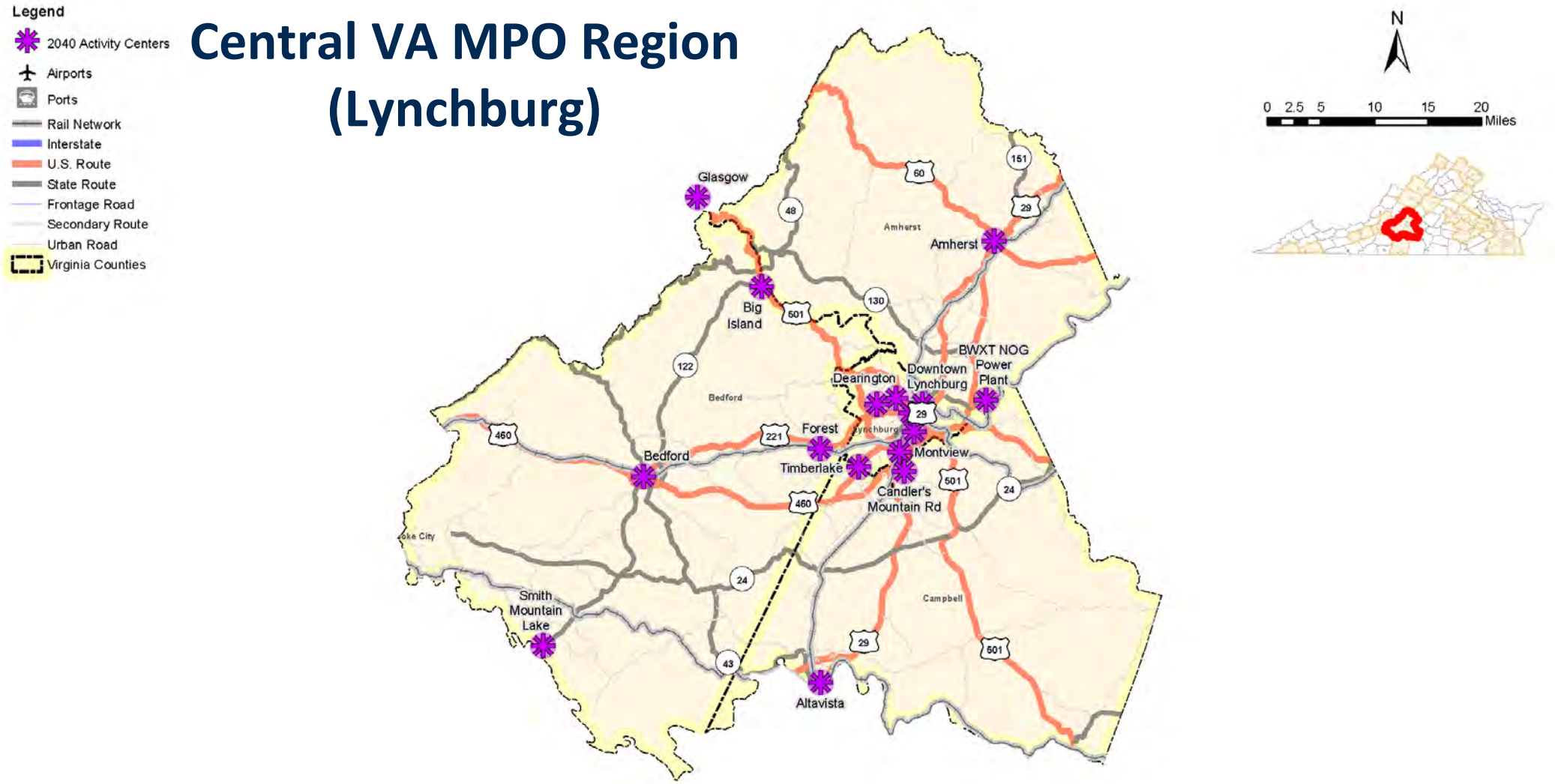
REGIONAL NETWORKS | ACTIVITY CENTERS



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

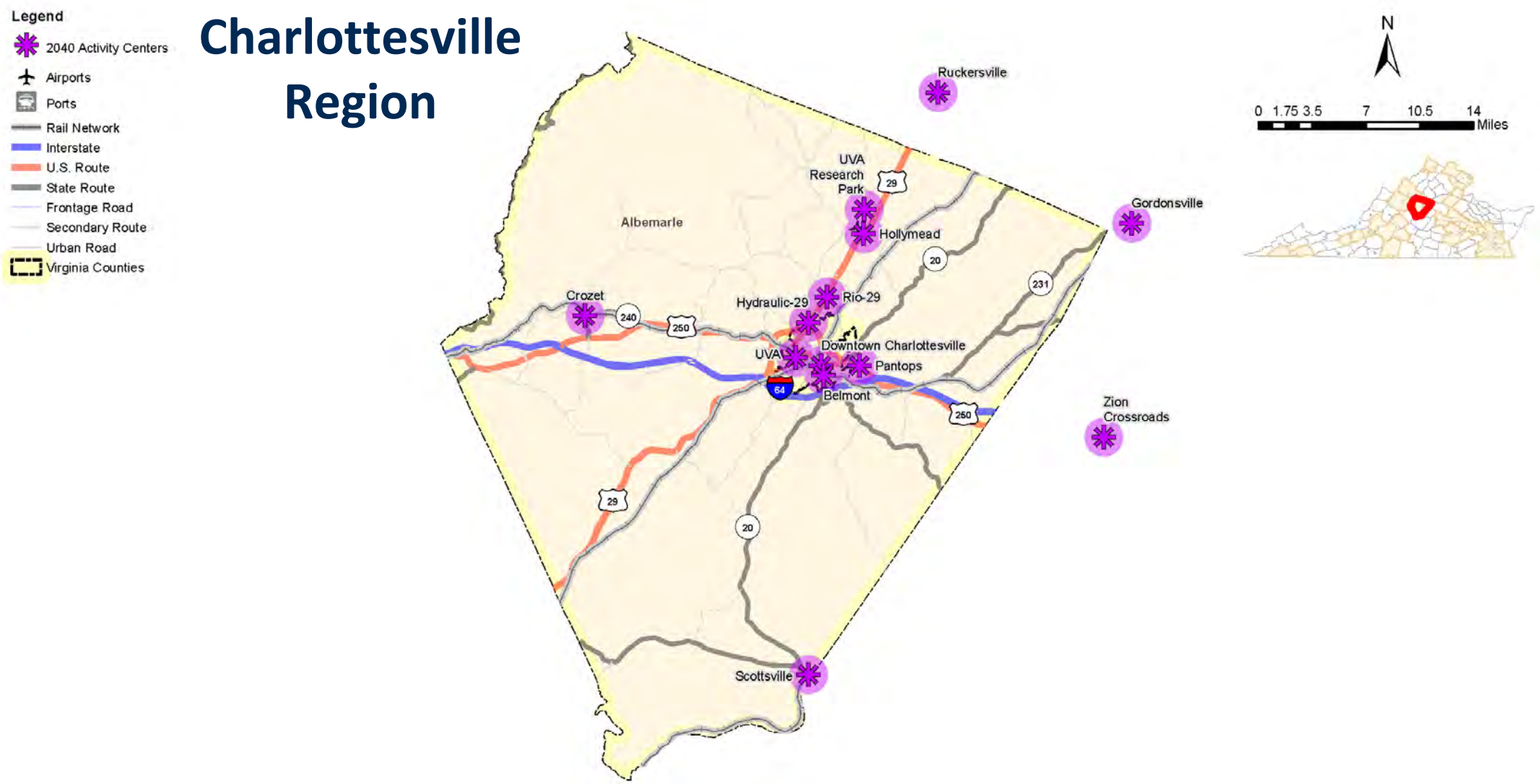
REGIONAL NETWORKS | ACTIVITY CENTERS

Central VA MPO Region (Lynchburg)



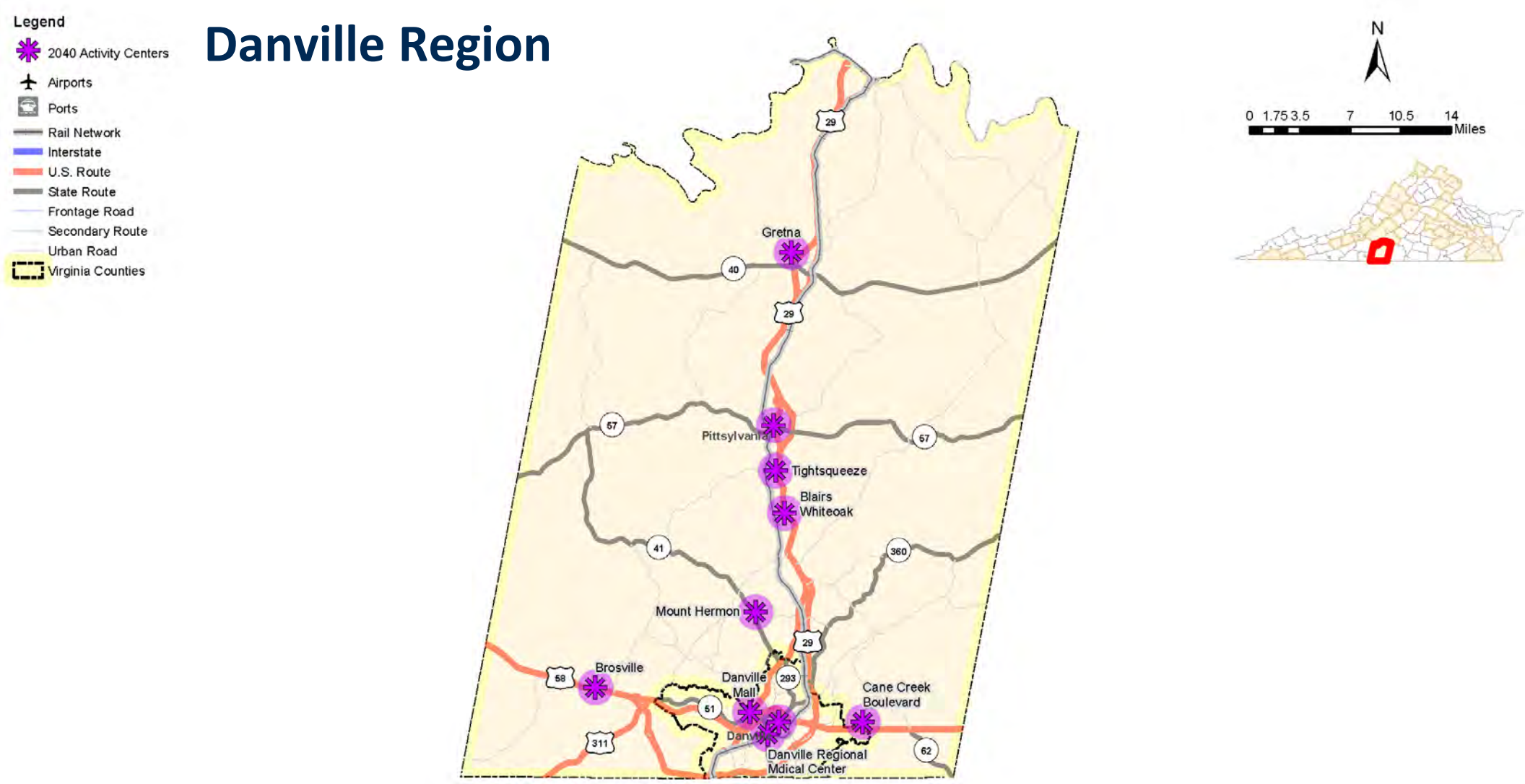
REGIONAL NETWORKS | ACTIVITY CENTERS

Charlottesville Region



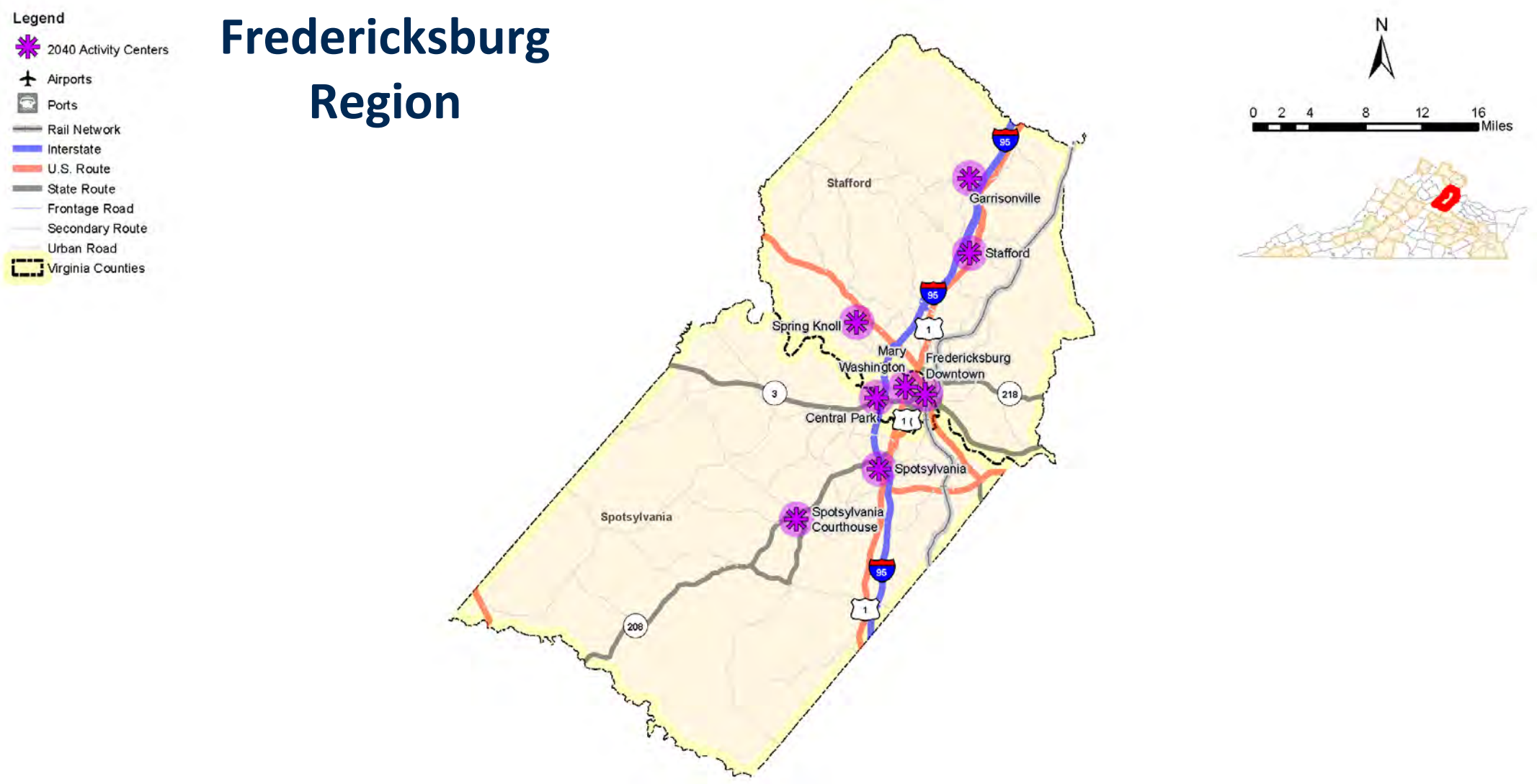
REGIONAL NETWORKS | ACTIVITY CENTERS

Danville Region



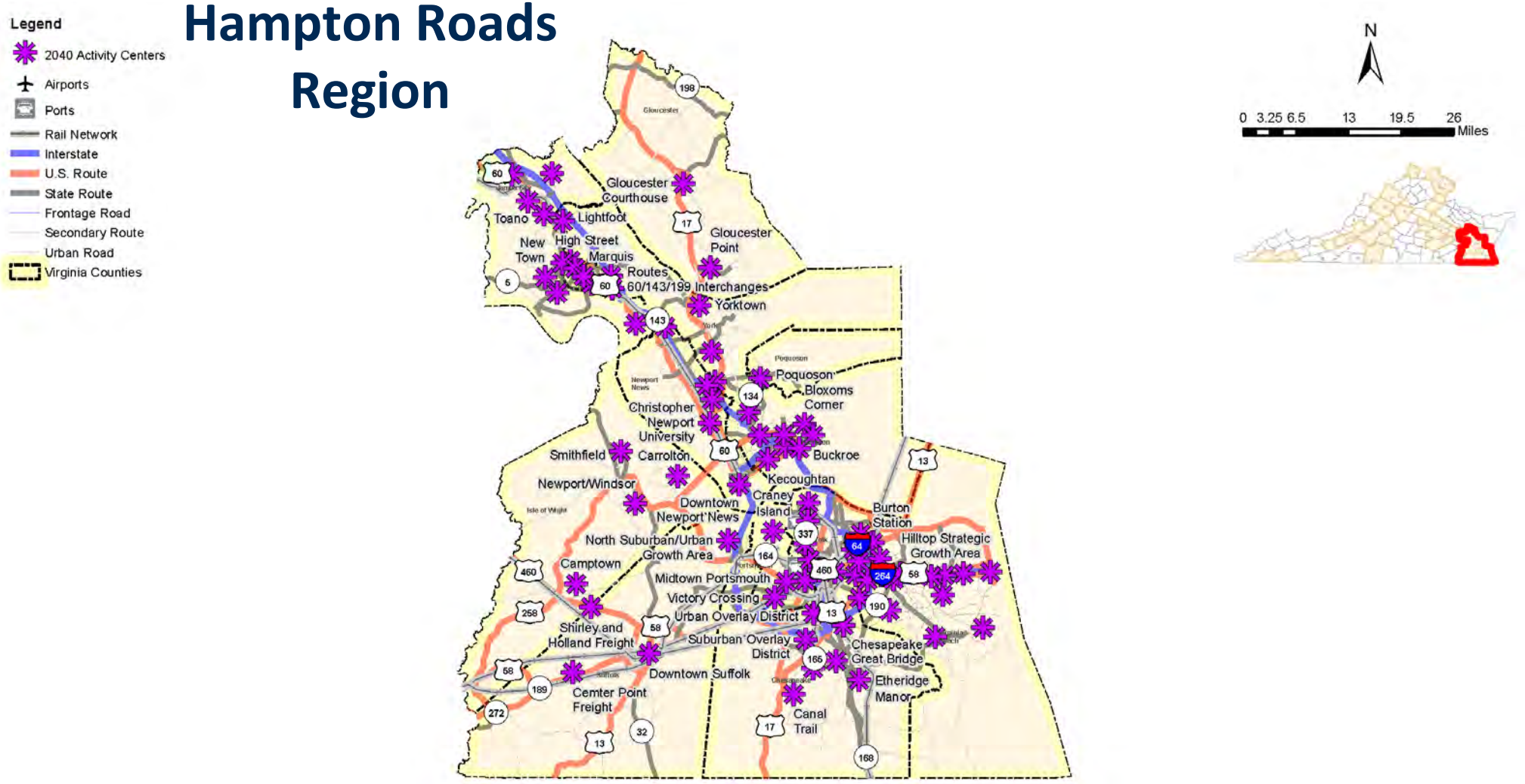
REGIONAL NETWORKS | ACTIVITY CENTERS

Fredericksburg Region



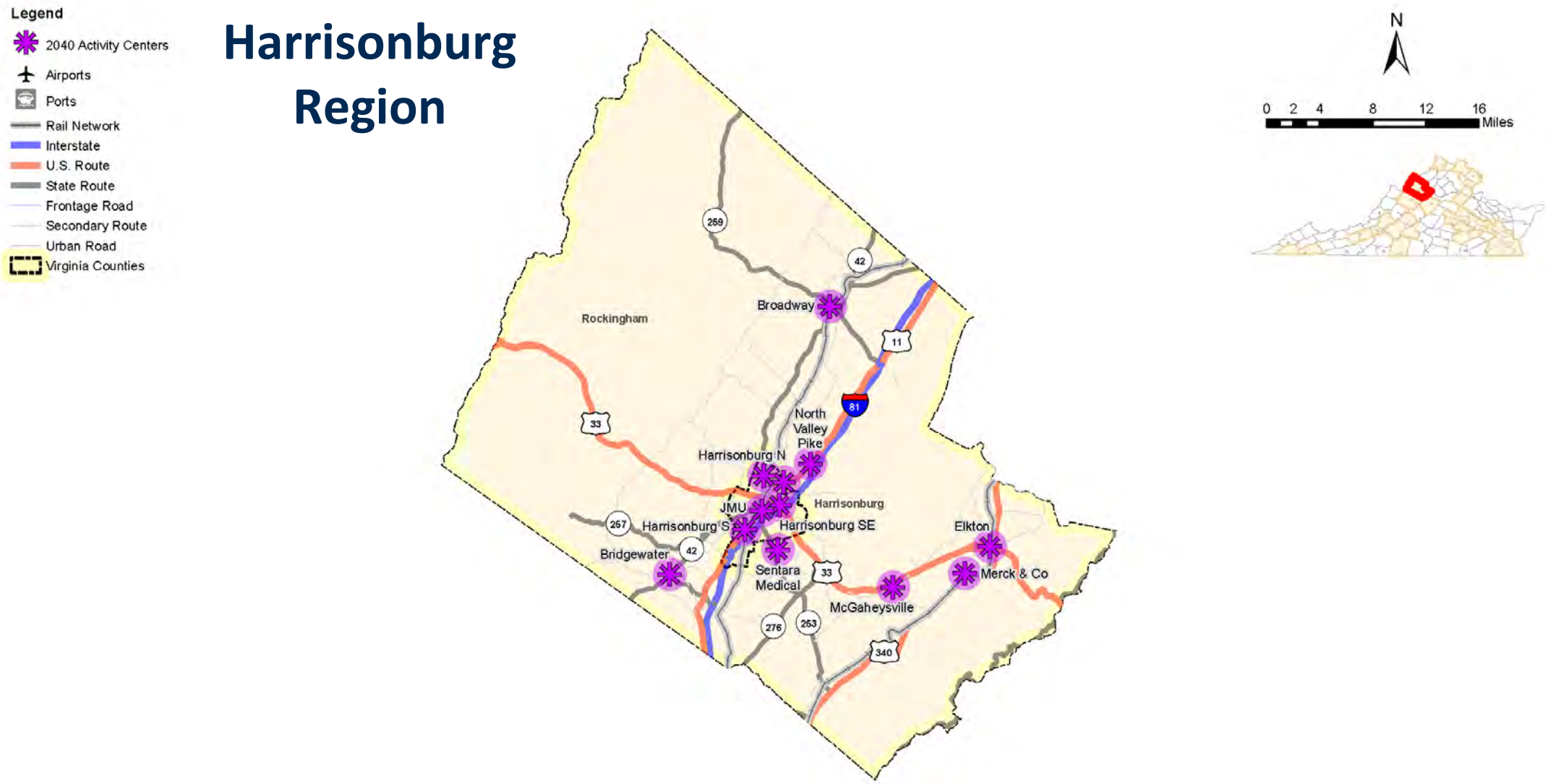
REGIONAL NETWORKS | ACTIVITY CENTERS

Hampton Roads Region

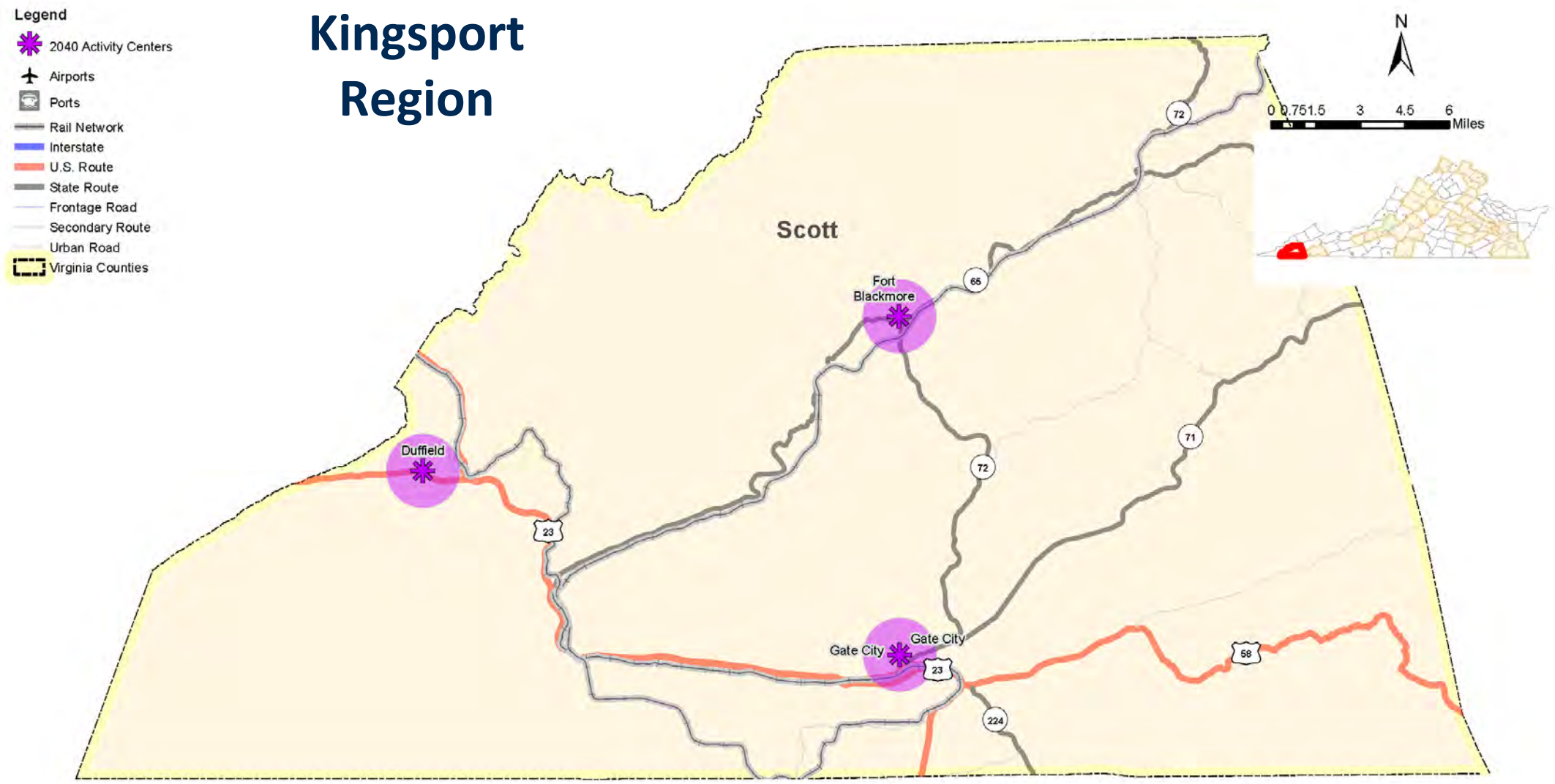


REGIONAL NETWORKS | ACTIVITY CENTERS

Harrisonburg Region

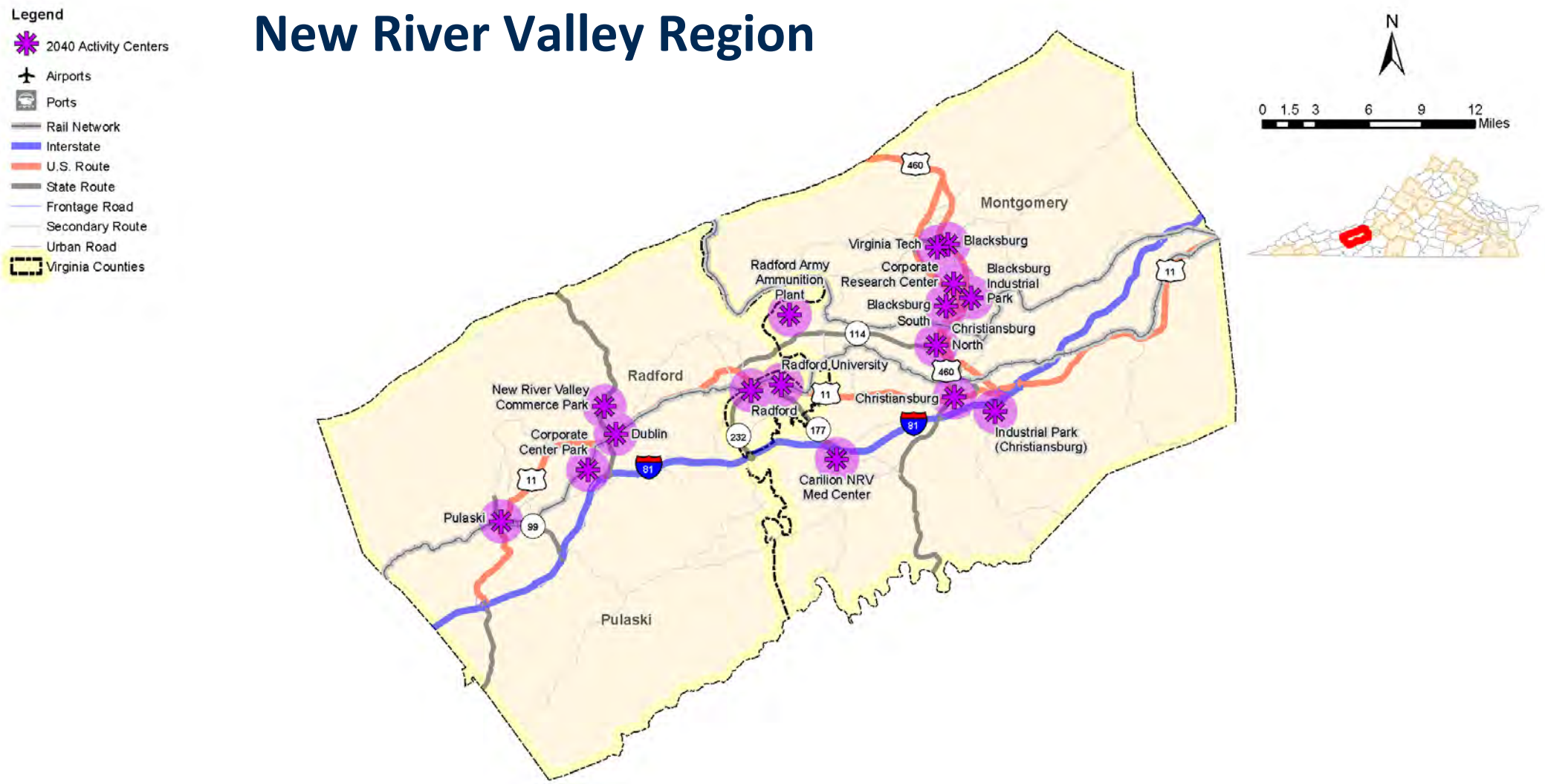


REGIONAL NETWORKS | ACTIVITY CENTERS



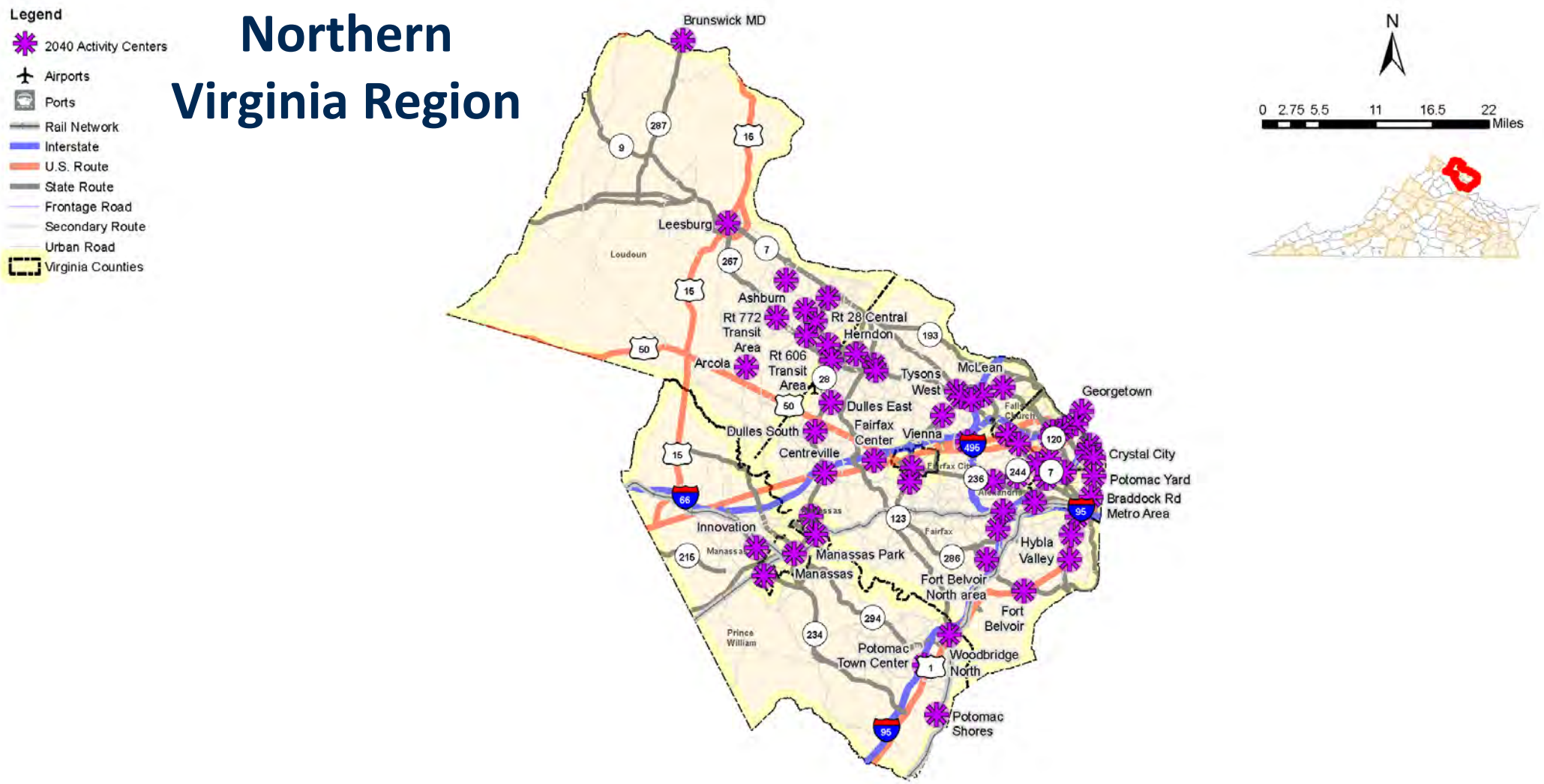
VTRANS | VIRGINIA'S TRANSPORTATION PLAN

New River Valley Region



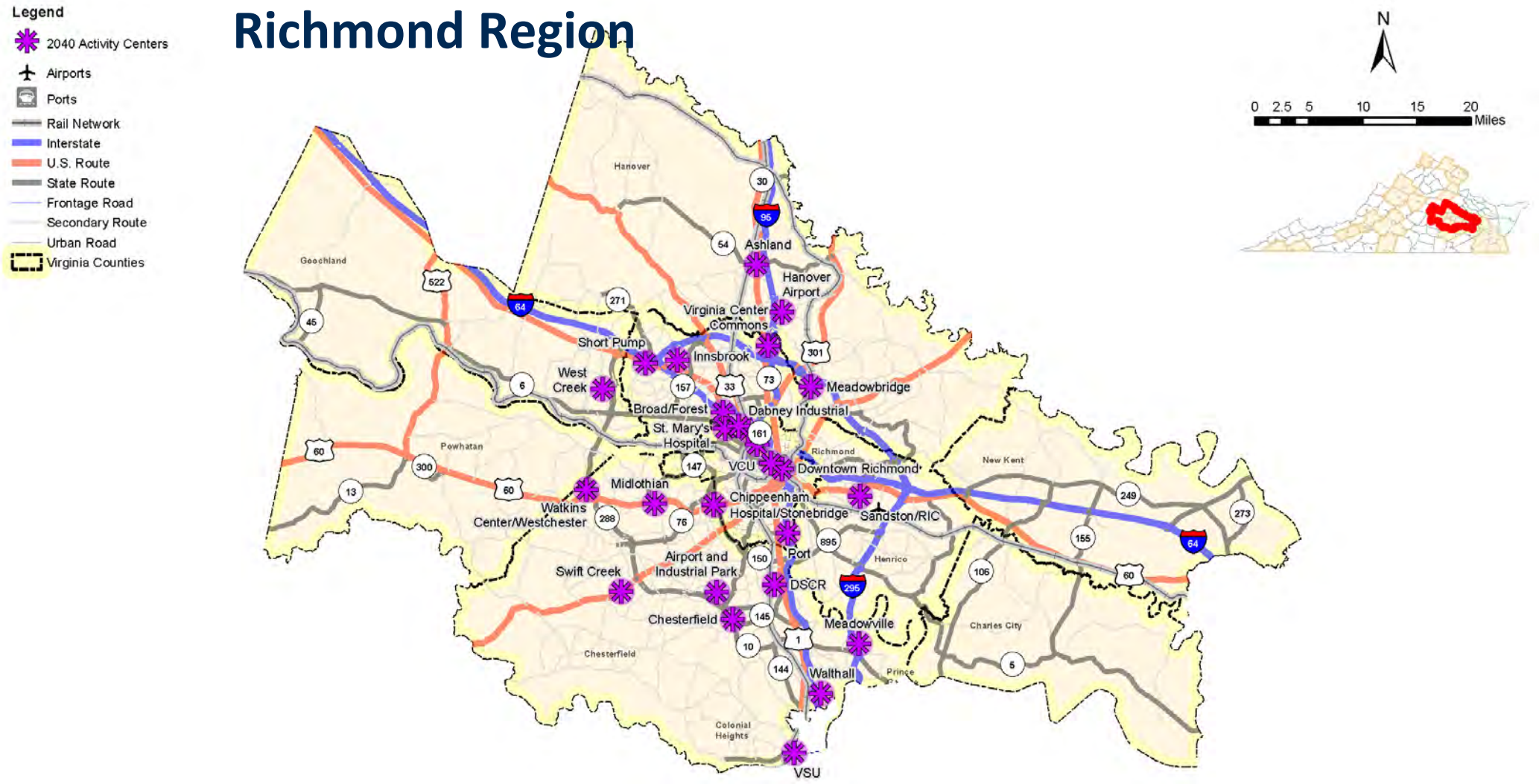
REGIONAL NETWORKS | ACTIVITY CENTERS

Northern Virginia Region



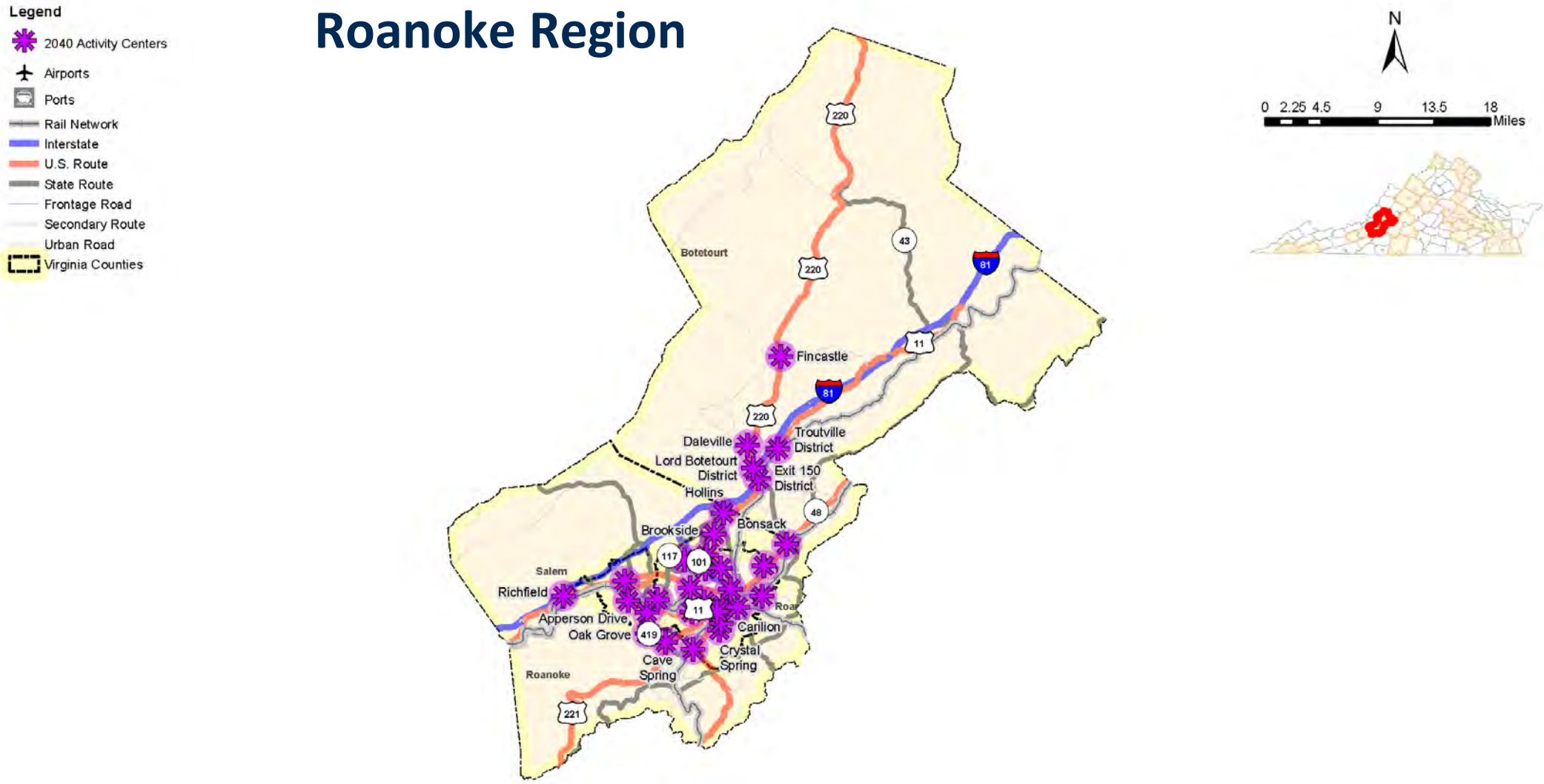
REGIONAL NETWORKS | ACTIVITY CENTERS

Richmond Region



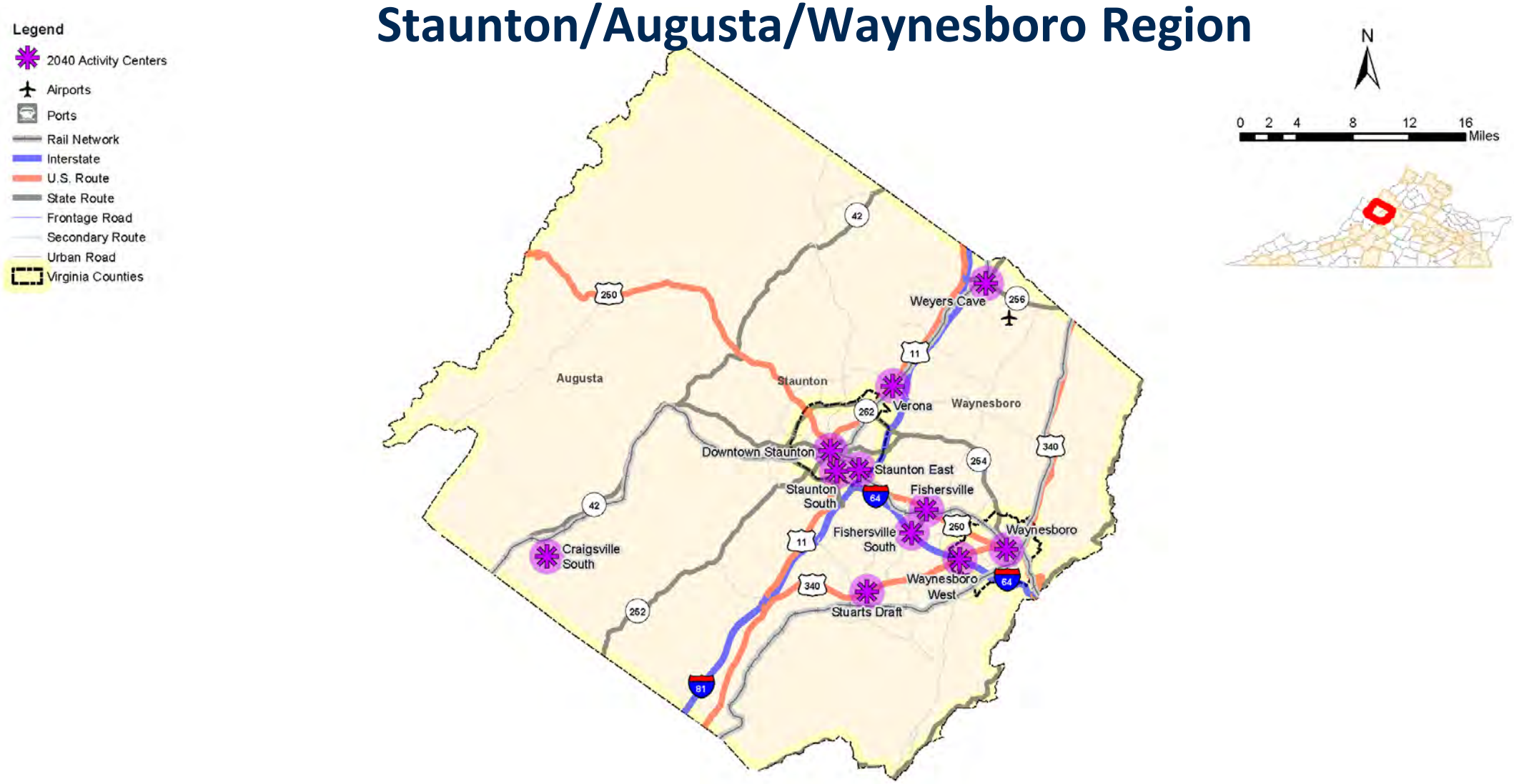
REGIONAL NETWORKS | ACTIVITY CENTERS

Roanoke Region

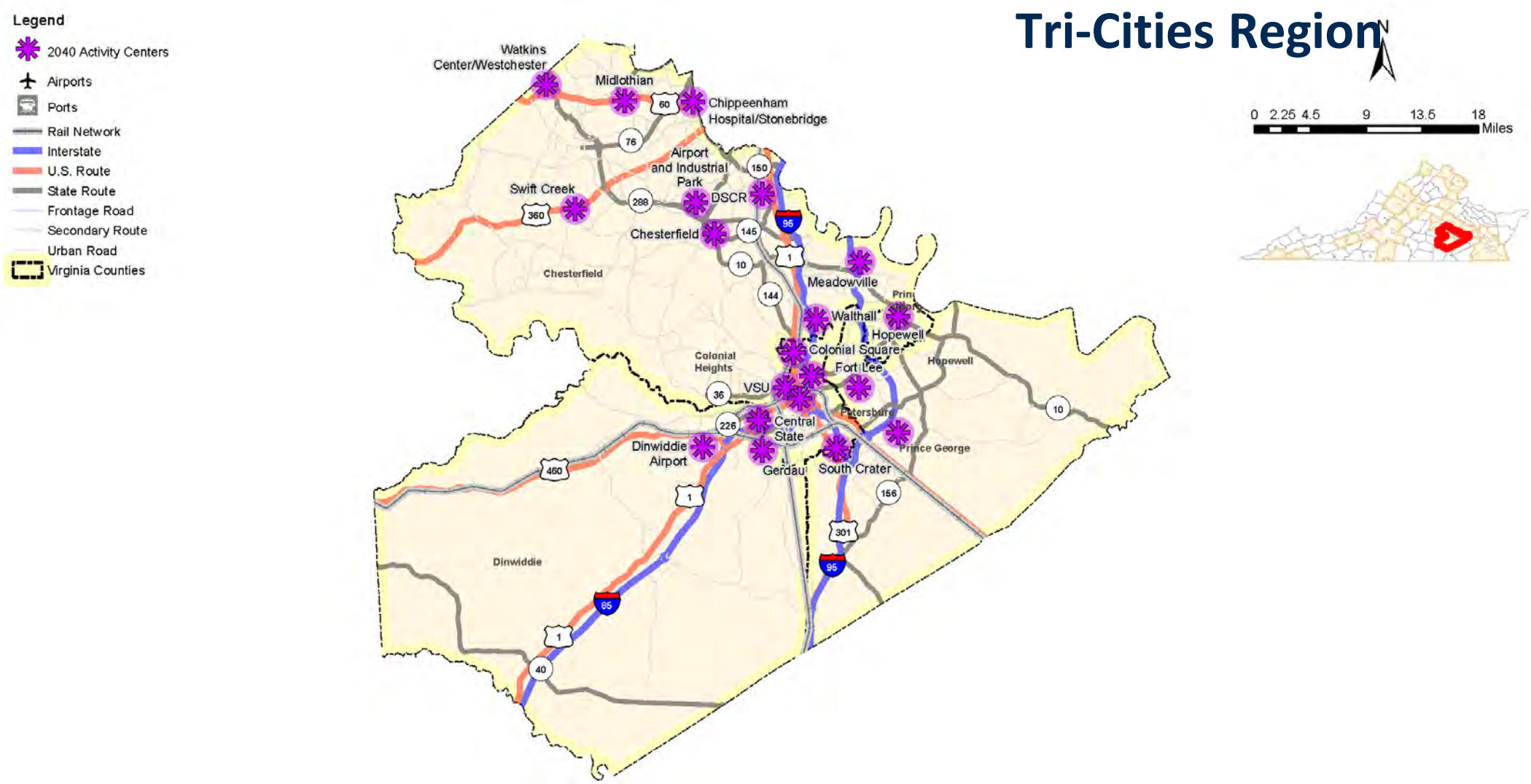


REGIONAL NETWORKS | ACTIVITY CENTERS

Staunton/Augusta/Waynesboro Region

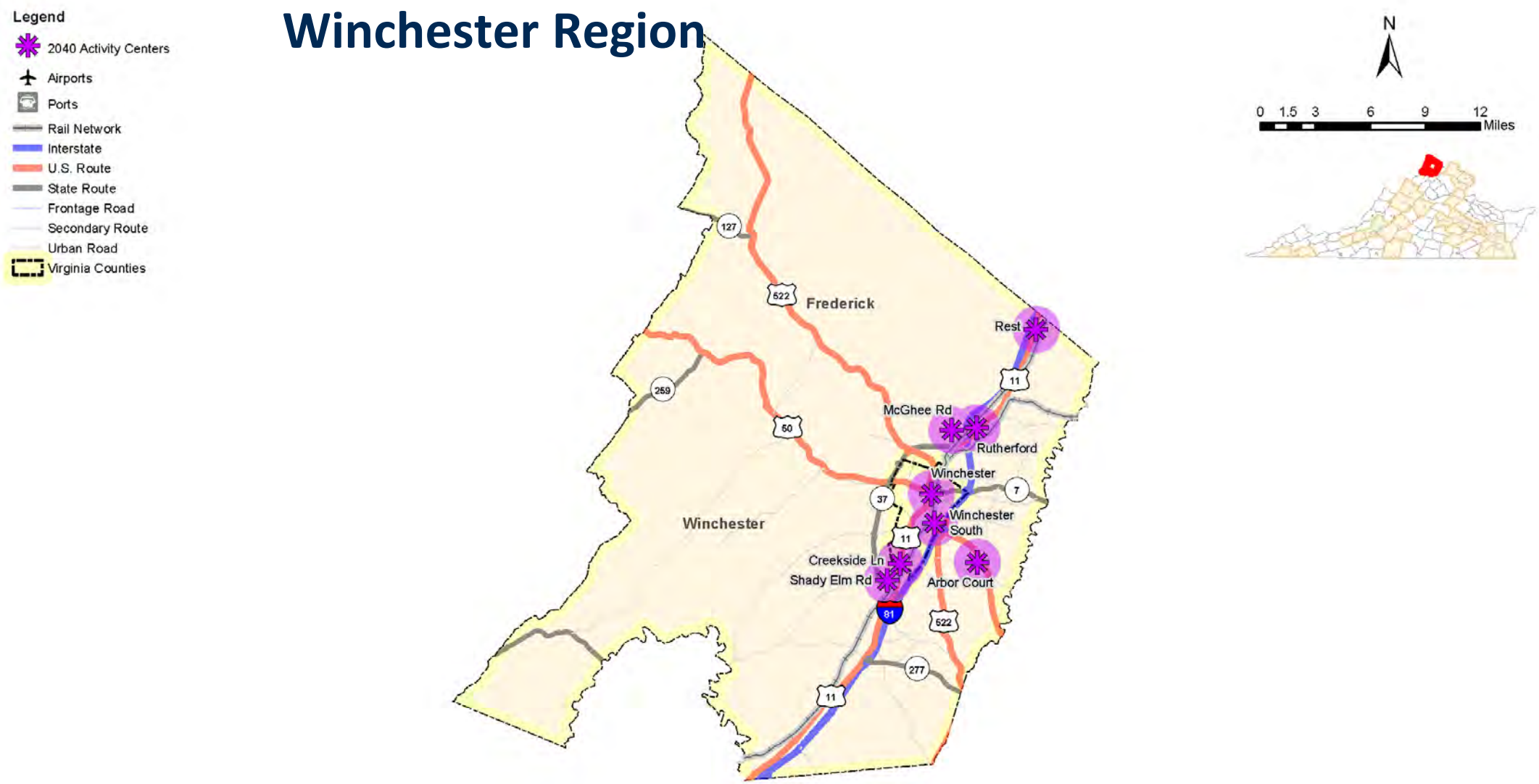


REGIONAL NETWORKS | ACTIVITY CENTERS



Regional Networks | Activity Centers

Winchester Region



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

URBAN DEVELOPMENT AREAS

URBAN DEVELOPMENT AREAS

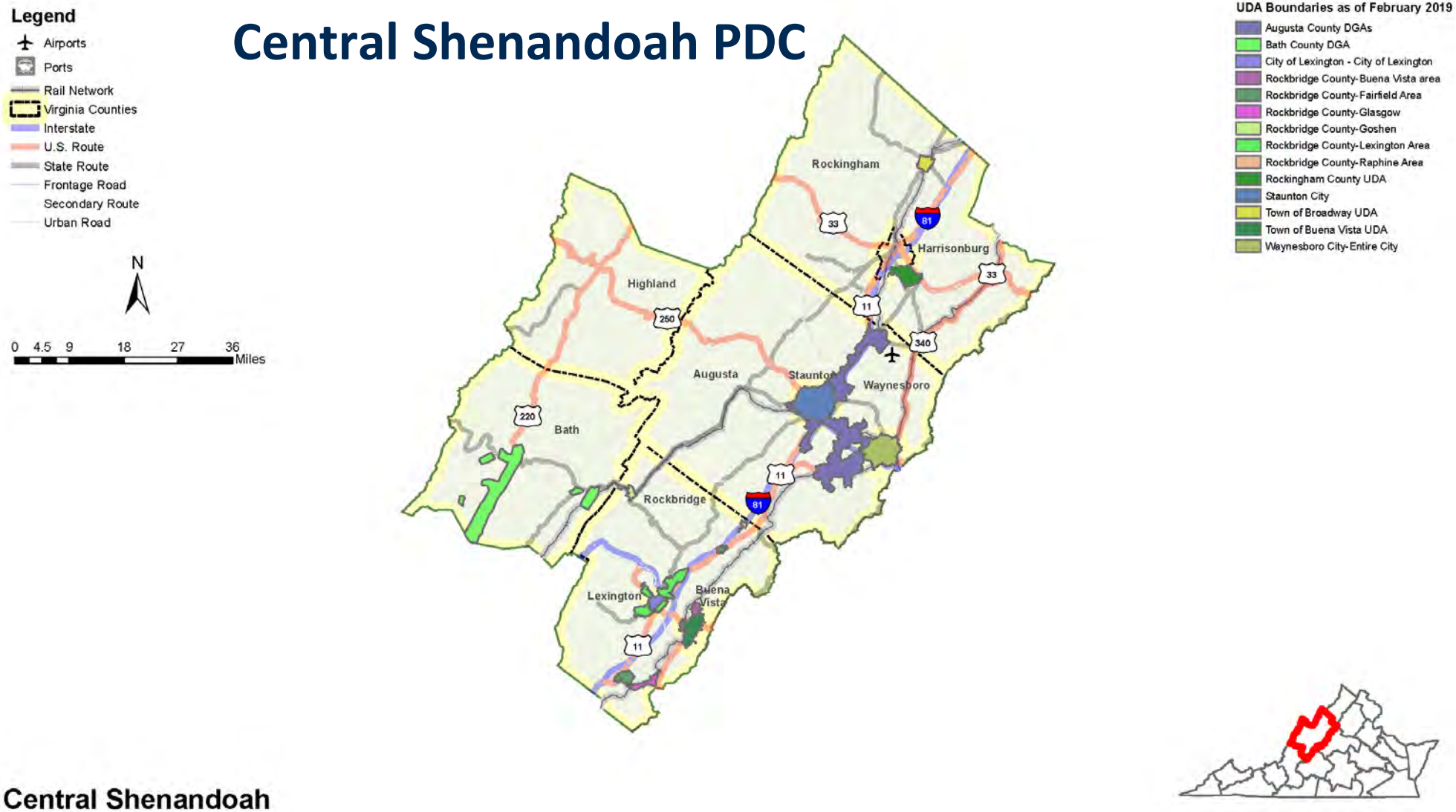
Accomack-Northampton PDC

Accomack-Northampton

VTRANS | VIRGINIA'S TRANSPORTATION PLAN

URBAN DEVELOPMENT AREAS

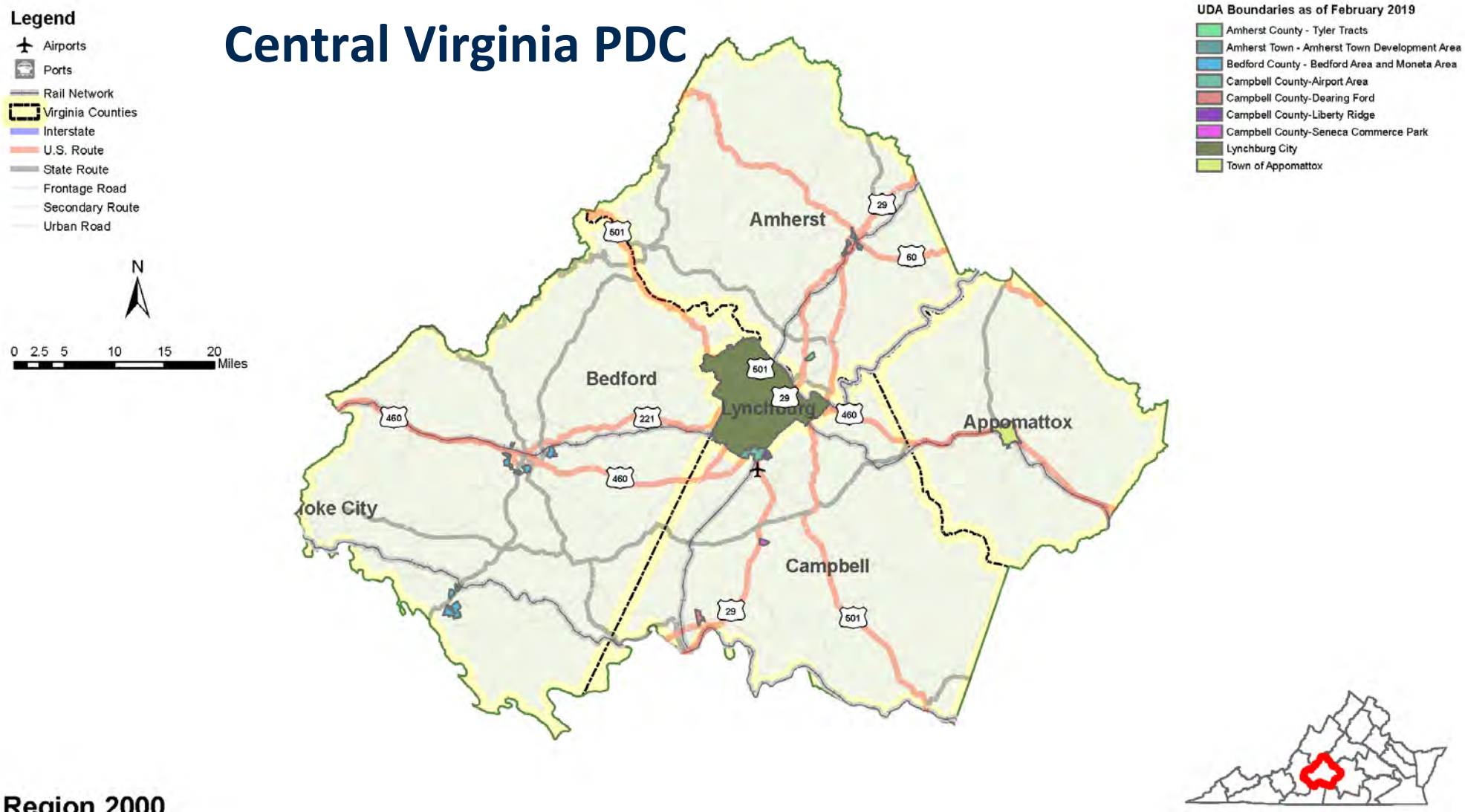
Central Shenandoah PDC



Central Shenandoah

URBAN DEVELOPMENT AREAS

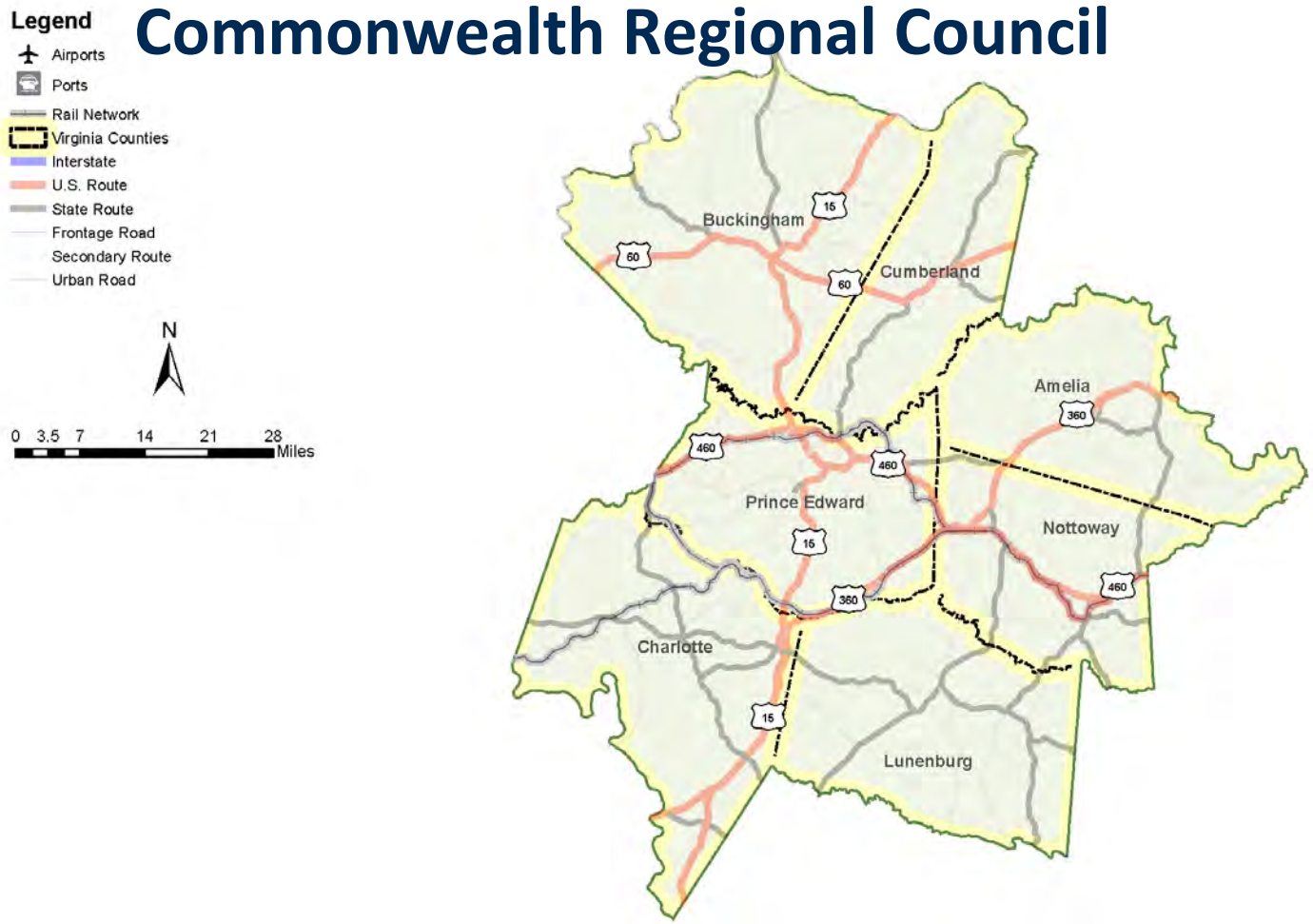
Central Virginia PDC



Region 2000

URBAN DEVELOPMENT AREAS

Commonwealth Regional Council

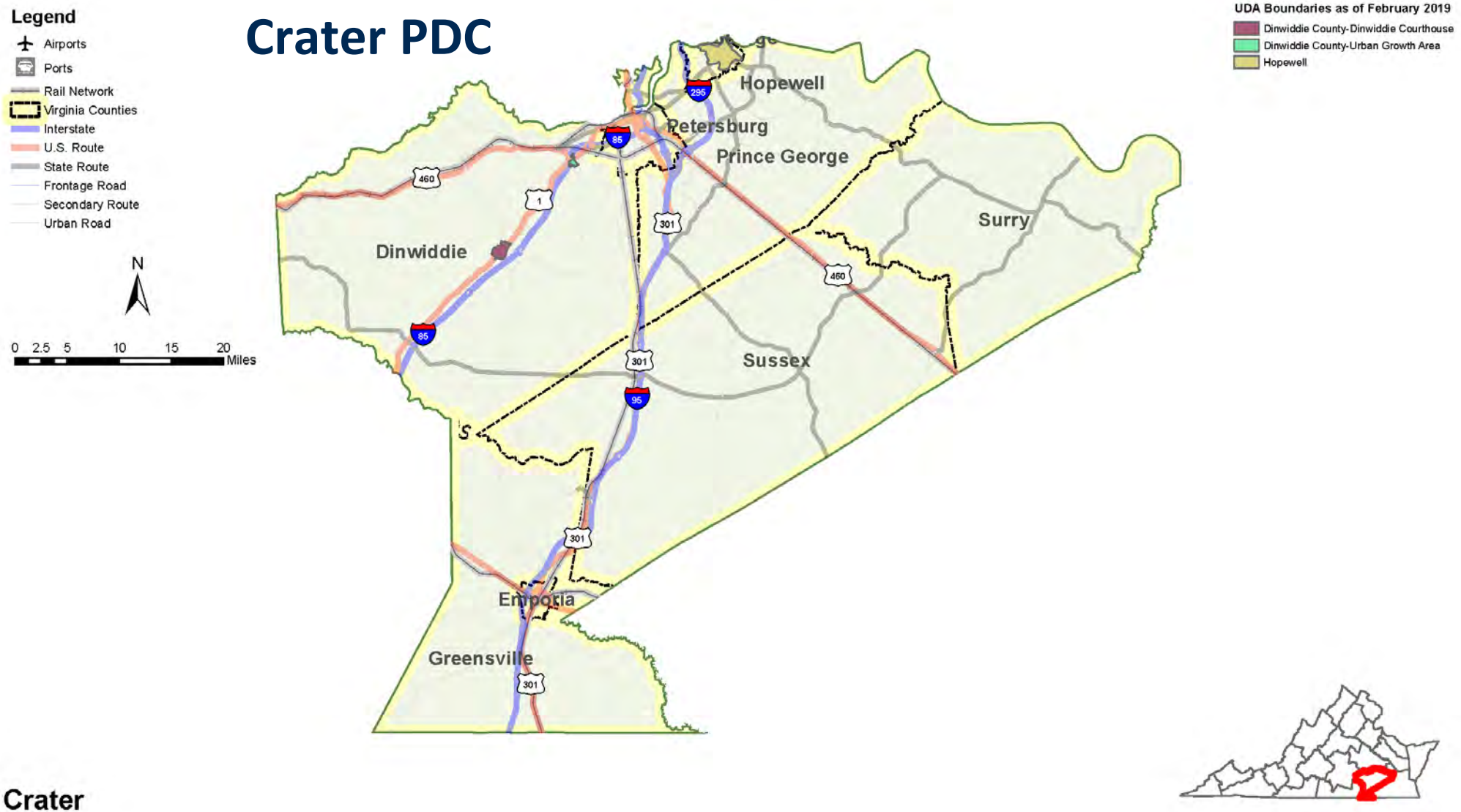


Commonwealth Regional Council

VTRANS | VIRGINIA'S TRANSPORTATION PLAN

URBAN DEVELOPMENT AREAS

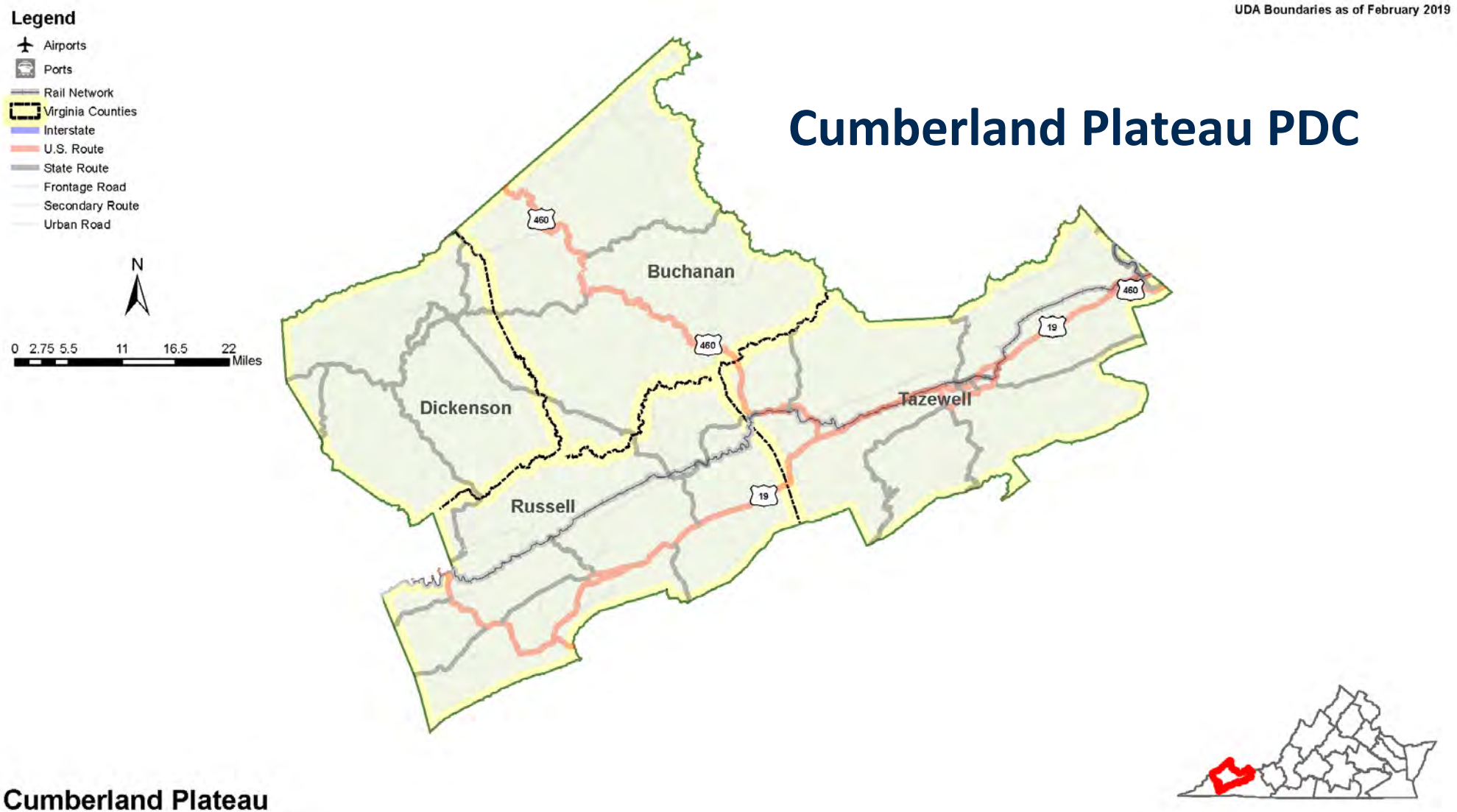
Crater PDC



Crater

VTRANS | VIRGINIA'S TRANSPORTATION PLAN

URBAN DEVELOPMENT AREAS



Cumberland Plateau

VTRANS | VIRGINIA'S TRANSPORTATION PLAN

URBAN DEVELOPMENT AREAS

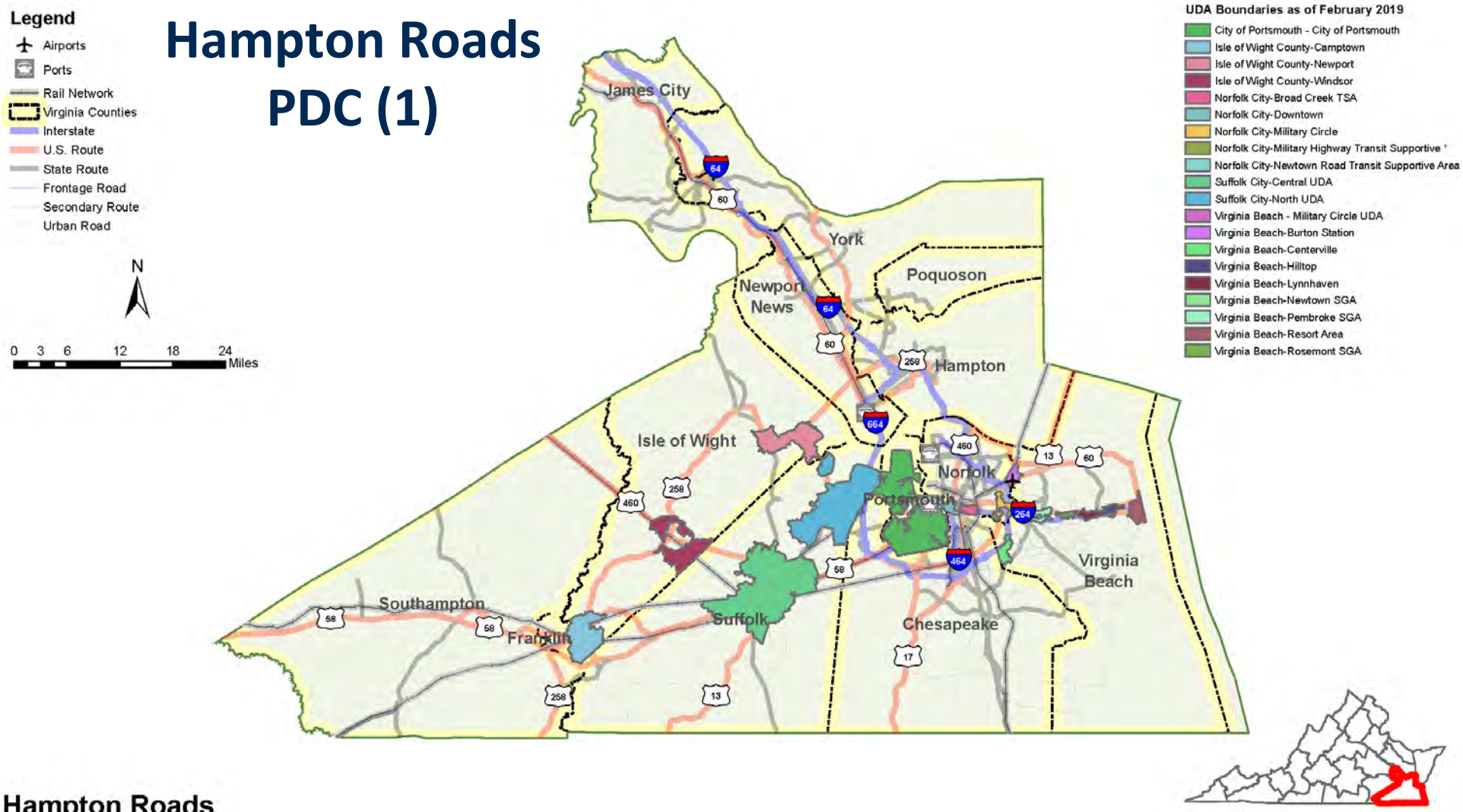
George Washington Regional Commission

George Washington Regional Commission

VTRANS | VIRGINIA'S TRANSPORTATION PLAN

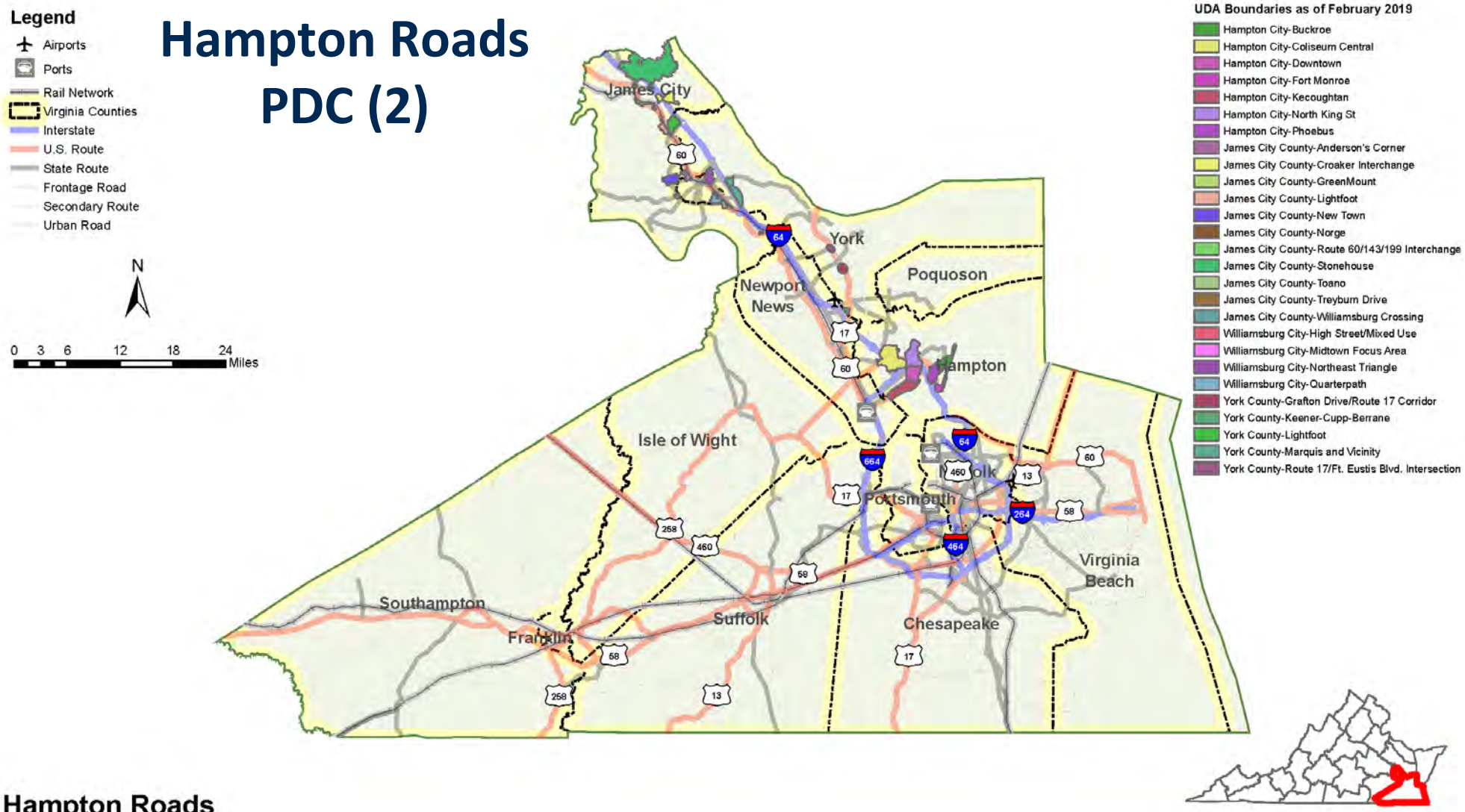
URBAN DEVELOPMENT AREAS

Hampton Roads PDC (1)



URBAN DEVELOPMENT AREAS

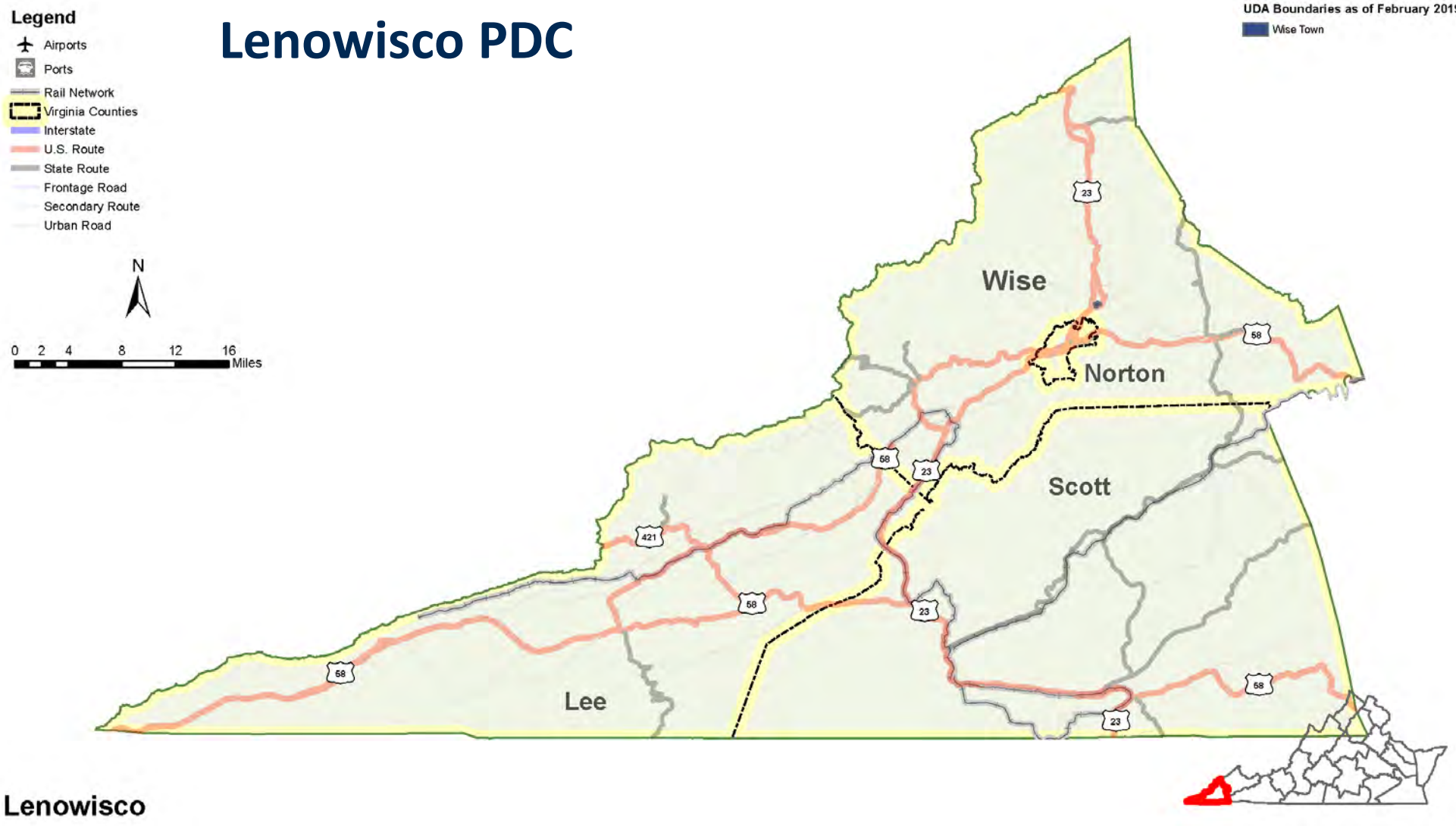
Hampton Roads PDC (2)



Hampton Roads

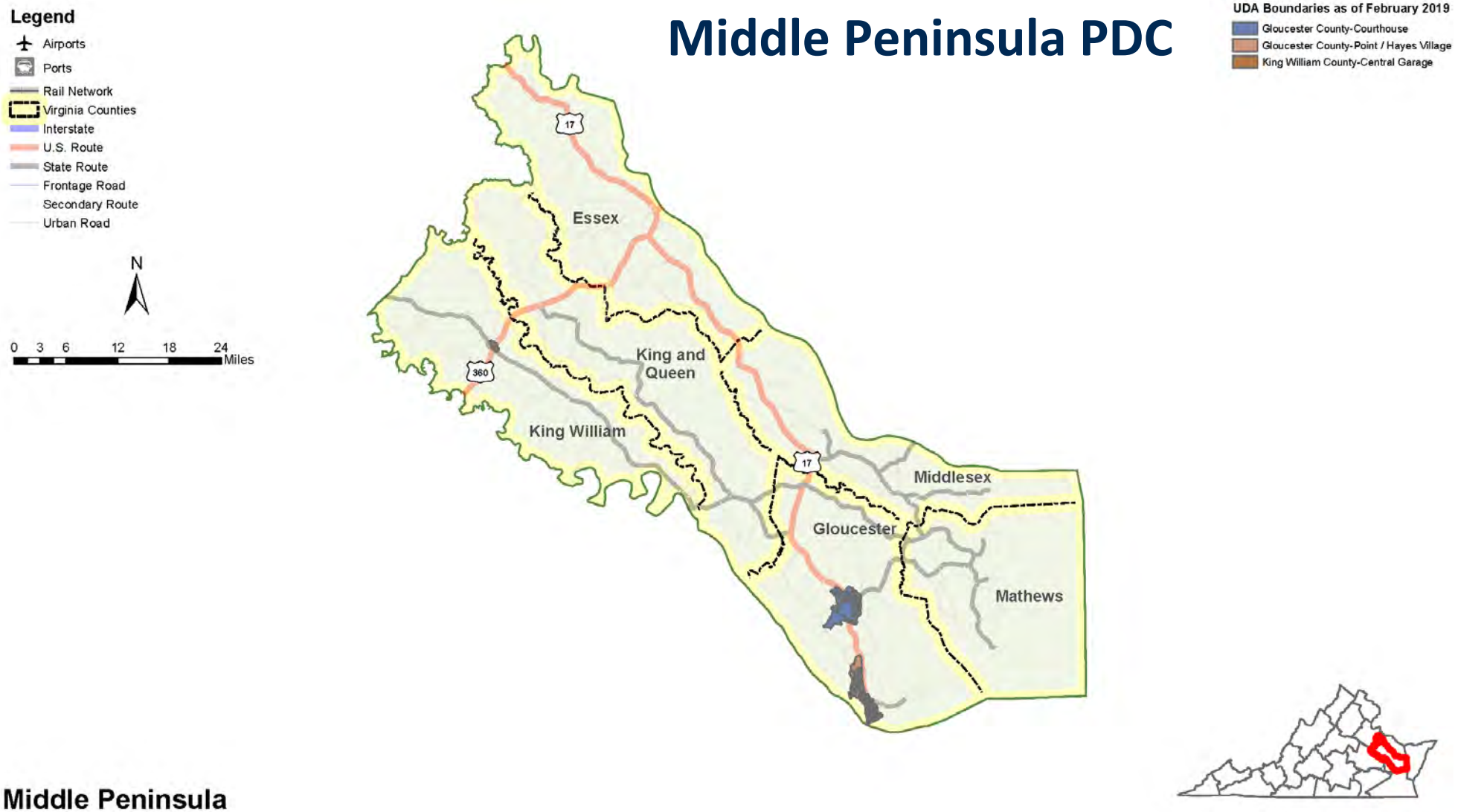
URBAN DEVELOPMENT AREAS

Lenowisco PDC



Lenowisco

URBAN DEVELOPMENT AREAS

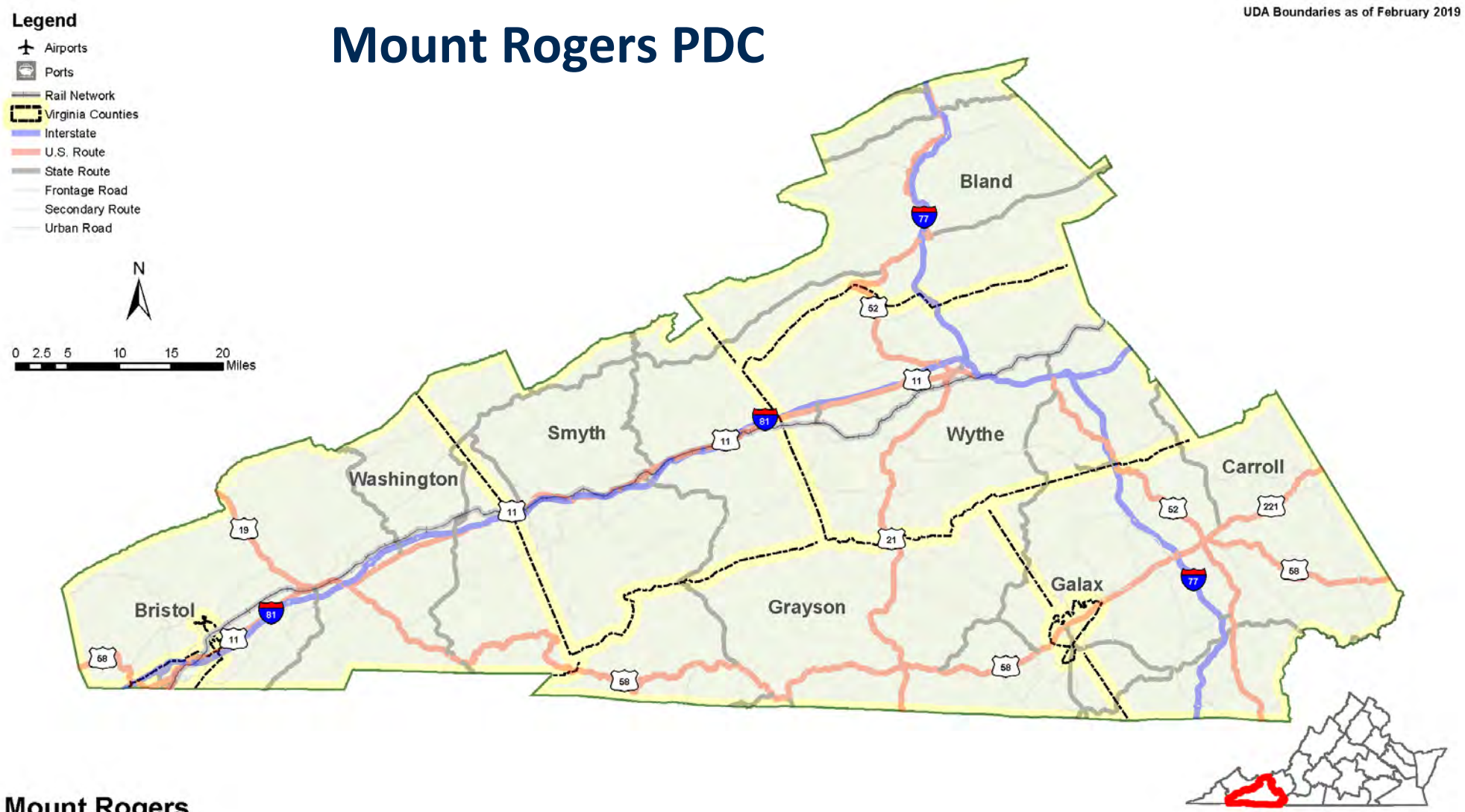


Middle Peninsula

VTRANS | VIRGINIA'S TRANSPORTATION PLAN

URBAN DEVELOPMENT AREAS

Mount Rogers PDC

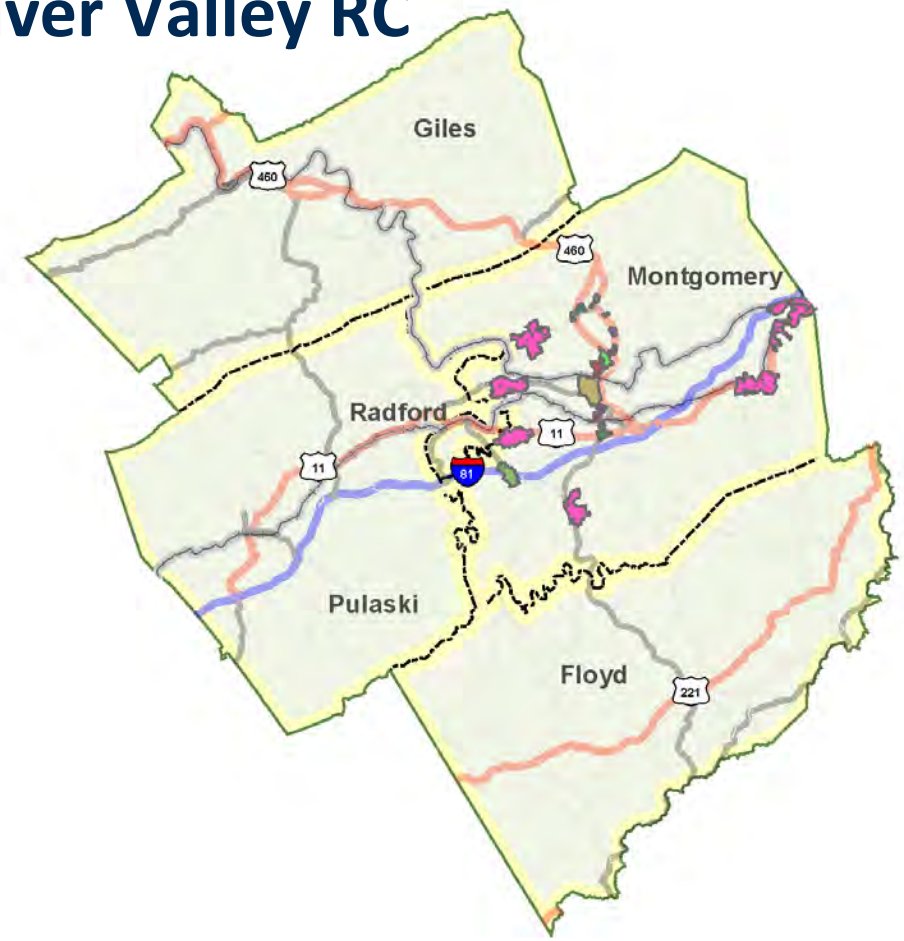


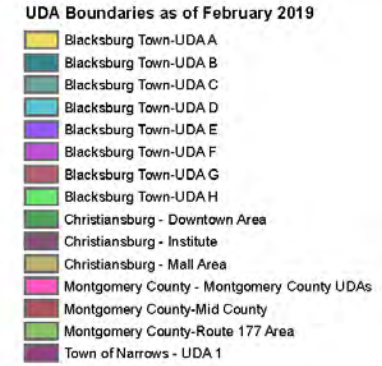
Mount Rogers

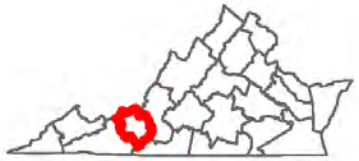
VTRANS | VIRGINIA'S TRANSPORTATION PLAN

URBAN DEVELOPMENT AREAS

New River Valley RC







New River Valley

VTRANS | VIRGINIA'S TRANSPORTATION PLAN

URBAN DEVELOPMENT AREAS

Northern Neck

URBAN DEVELOPMENT AREAS

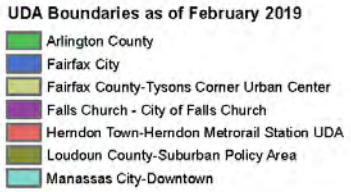
Northern Shenandoah Valley Regional Commission

Northern Shenandoah Valley Regional Commission

VTRANS | VIRGINIA'S TRANSPORTATION PLAN

URBAN DEVELOPMENT AREAS

Northern Virginia RC

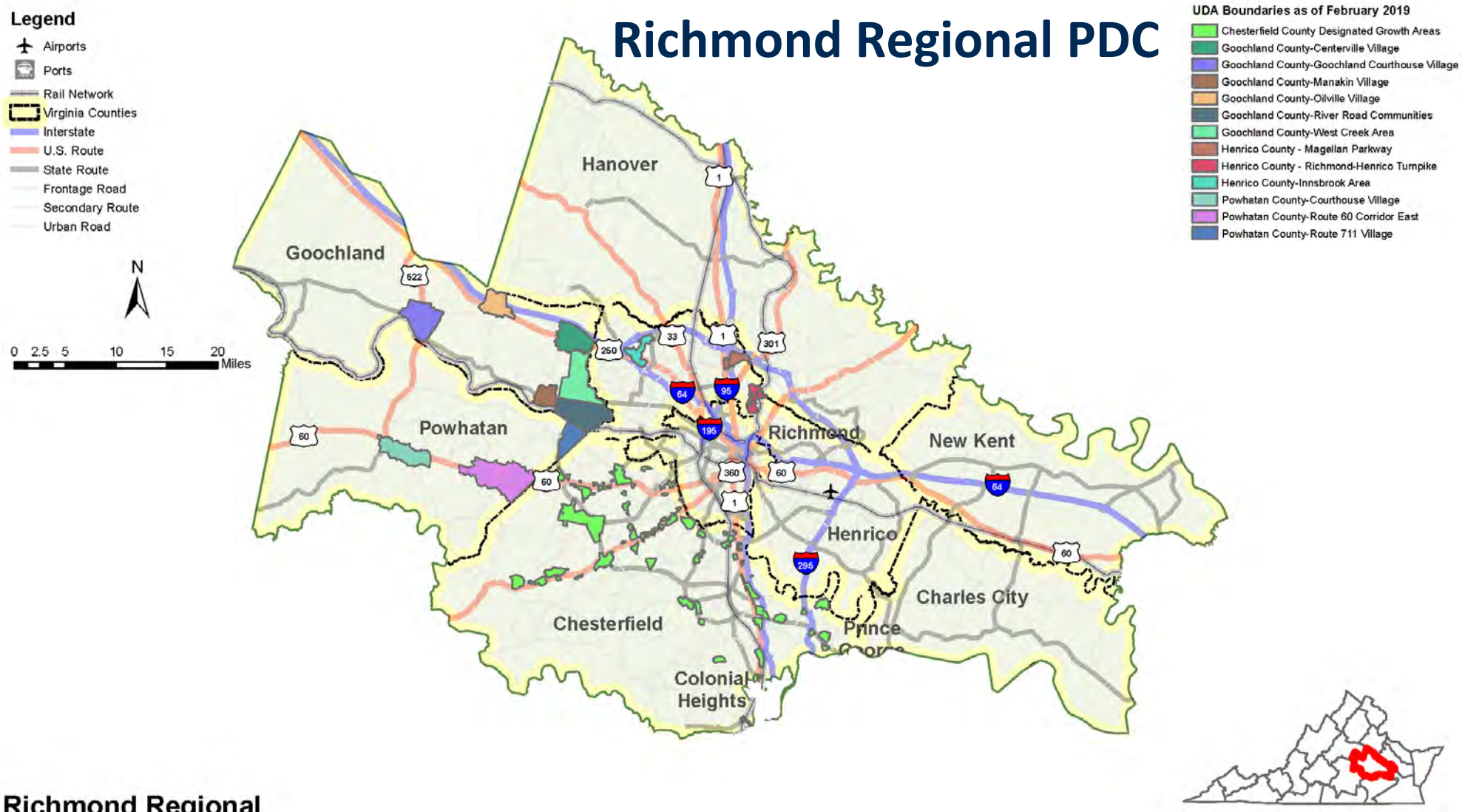


URBAN DEVELOPMENT AREAS

Rappahannock-Rapidan Regional Commission

Rappahannock - Rapidan Regional Commission

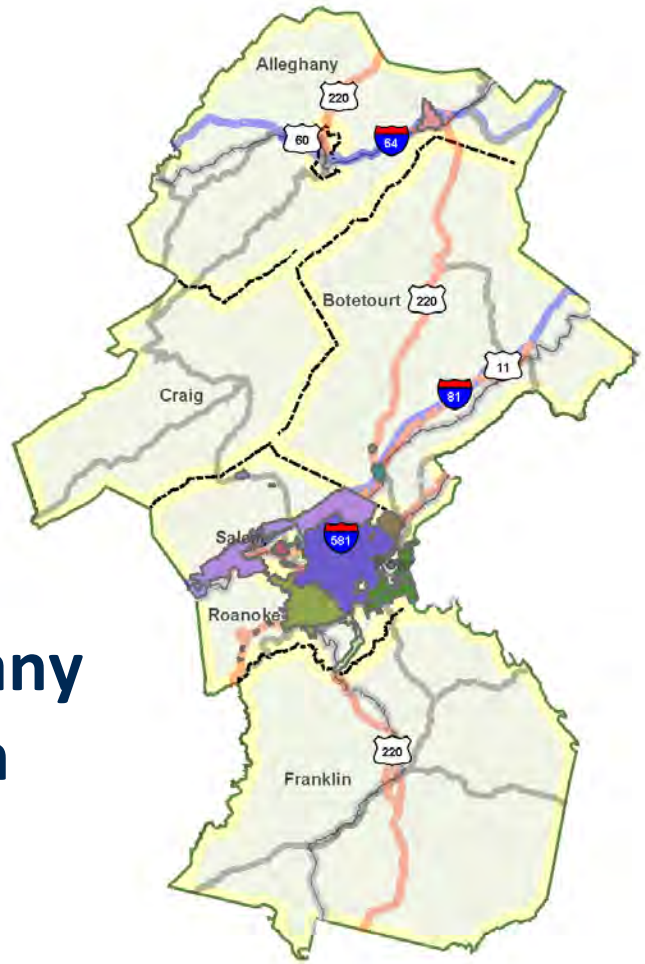
URBAN DEVELOPMENT AREAS



Richmond Regional

VTRANS | VIRGINIA'S TRANSPORTATION PLAN

URBAN DEVELOPMENT AREAS



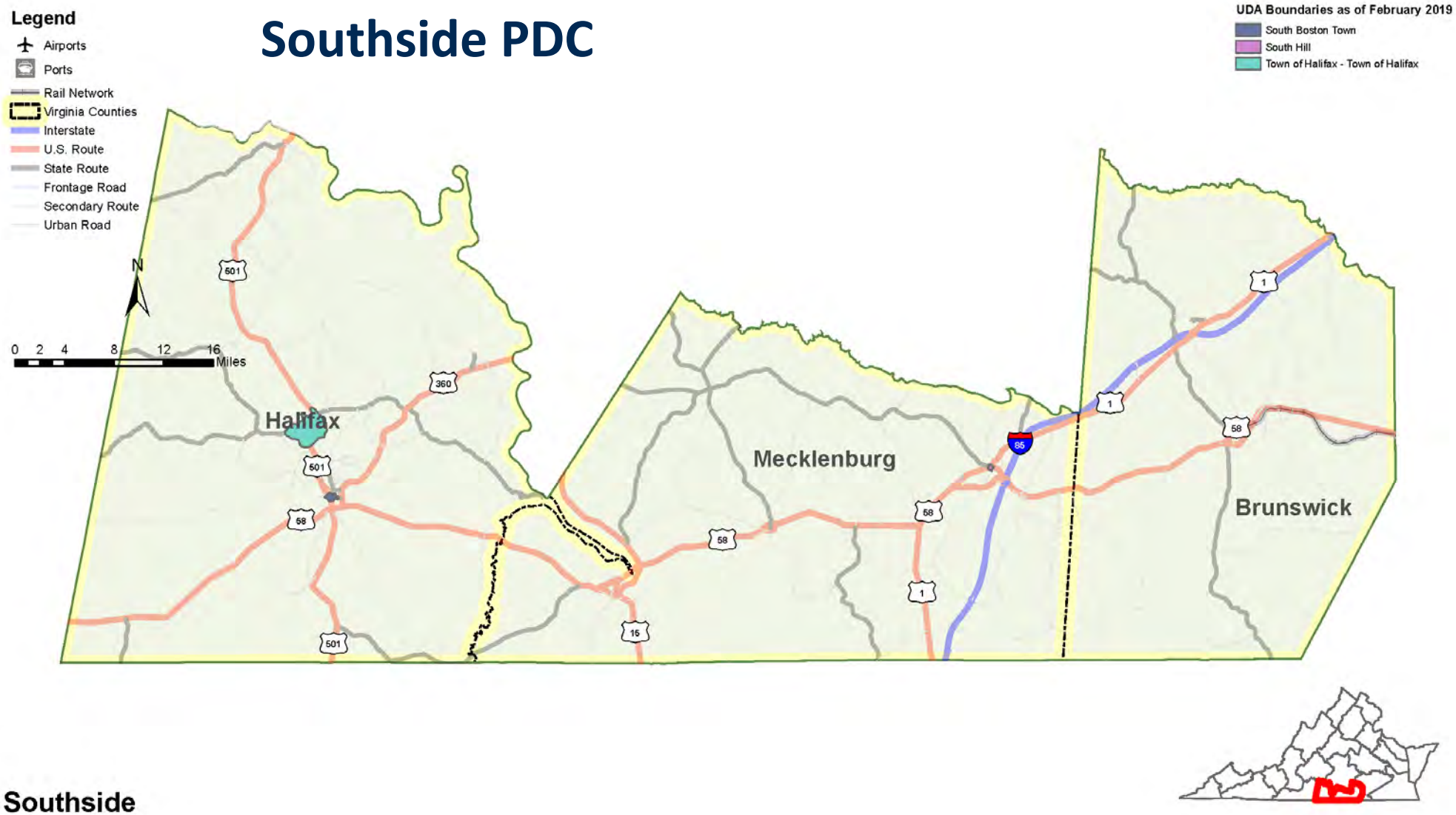
Roanoke Valley-Alleghany Regional Commission

Roanoke Valley-Alleghany Regional Commission

VTRANS | VIRGINIA'S TRANSPORTATION PLAN

URBAN DEVELOPMENT AREAS

Southside PDC



Southside

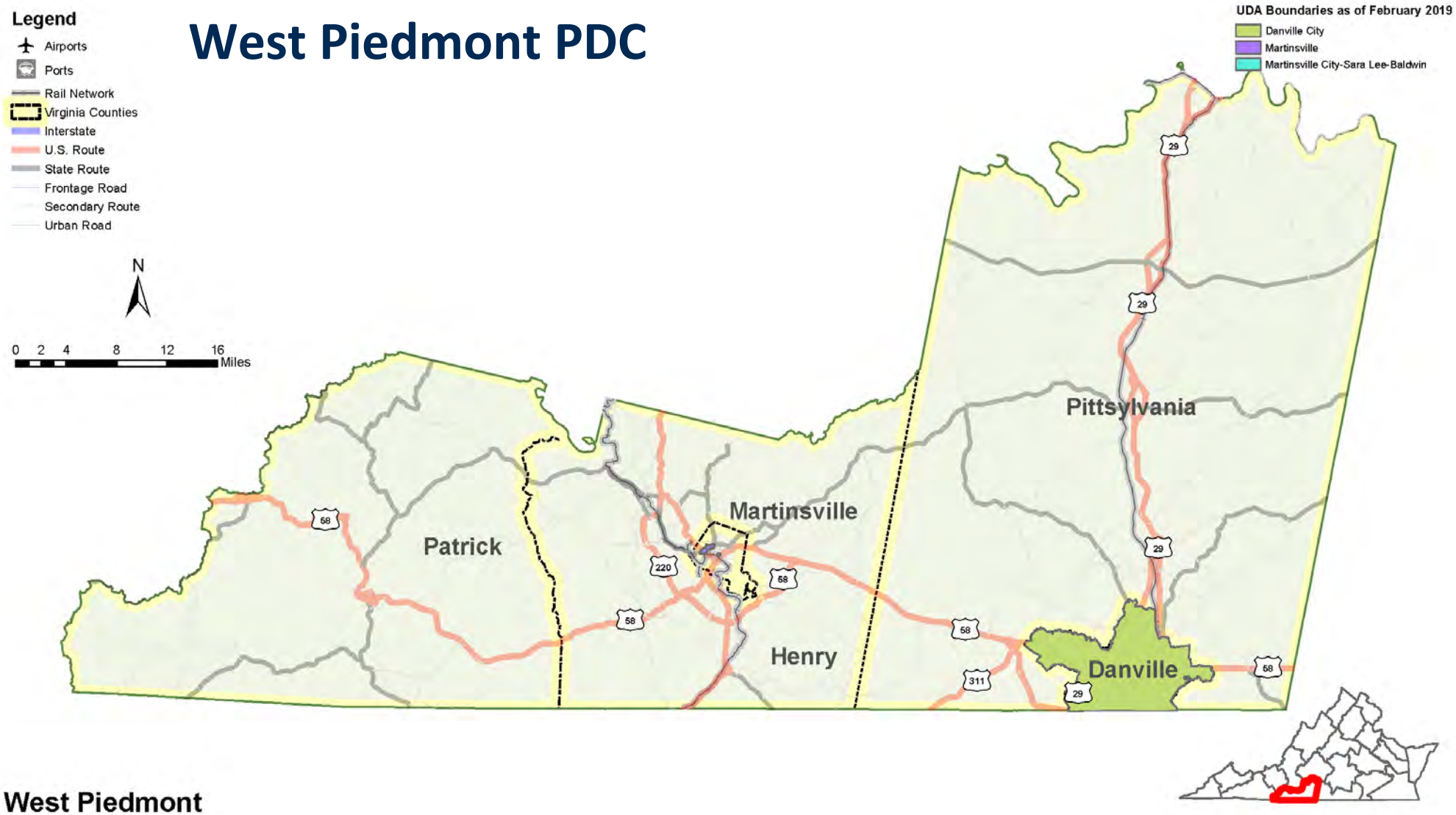
URBAN DEVELOPMENT AREAS

Thomas Jefferson PDC

Thomas Jefferson

URBAN DEVELOPMENT AREAS

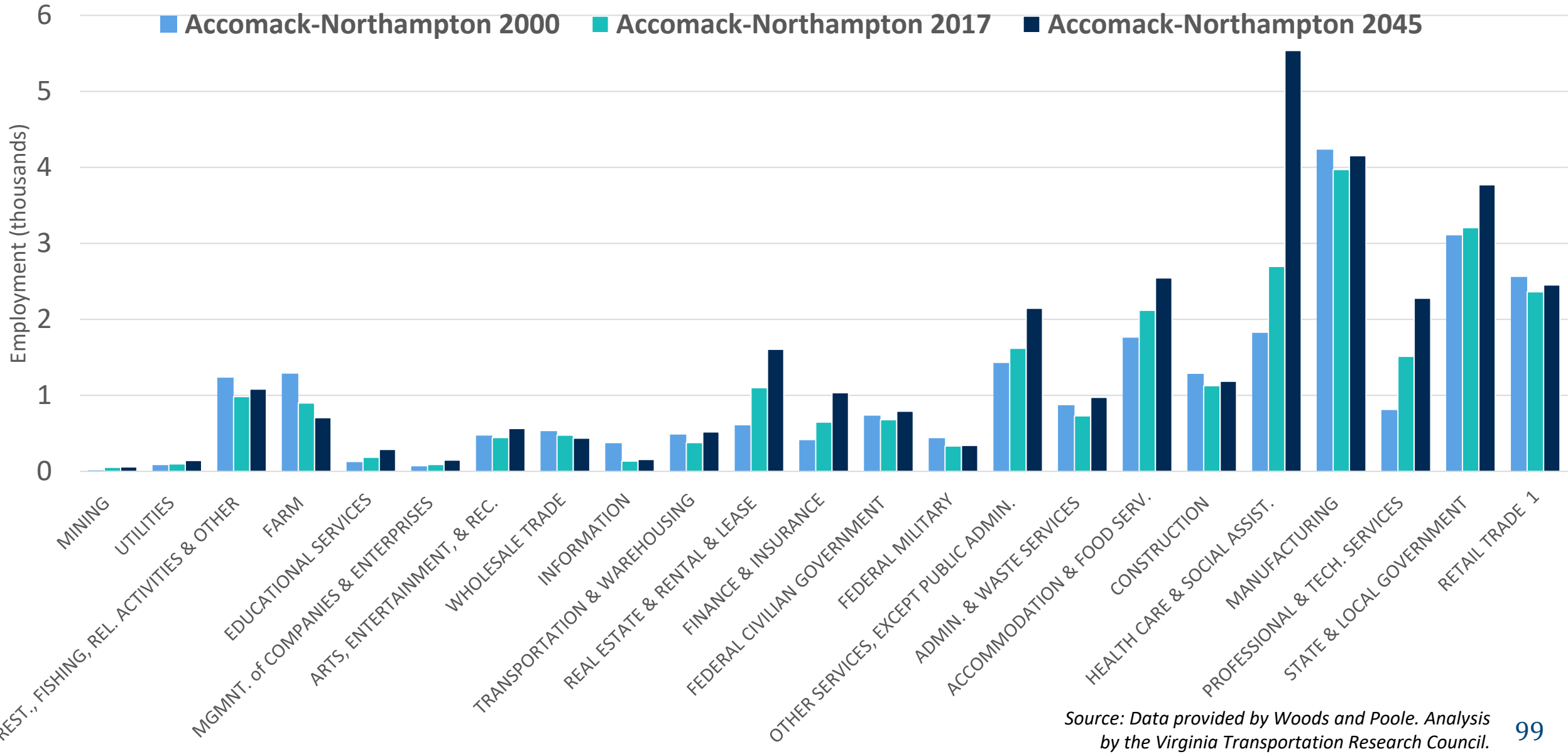
West Piedmont PDC



West Piedmont

VTRANS | VIRGINIA'S TRANSPORTATION PLAN

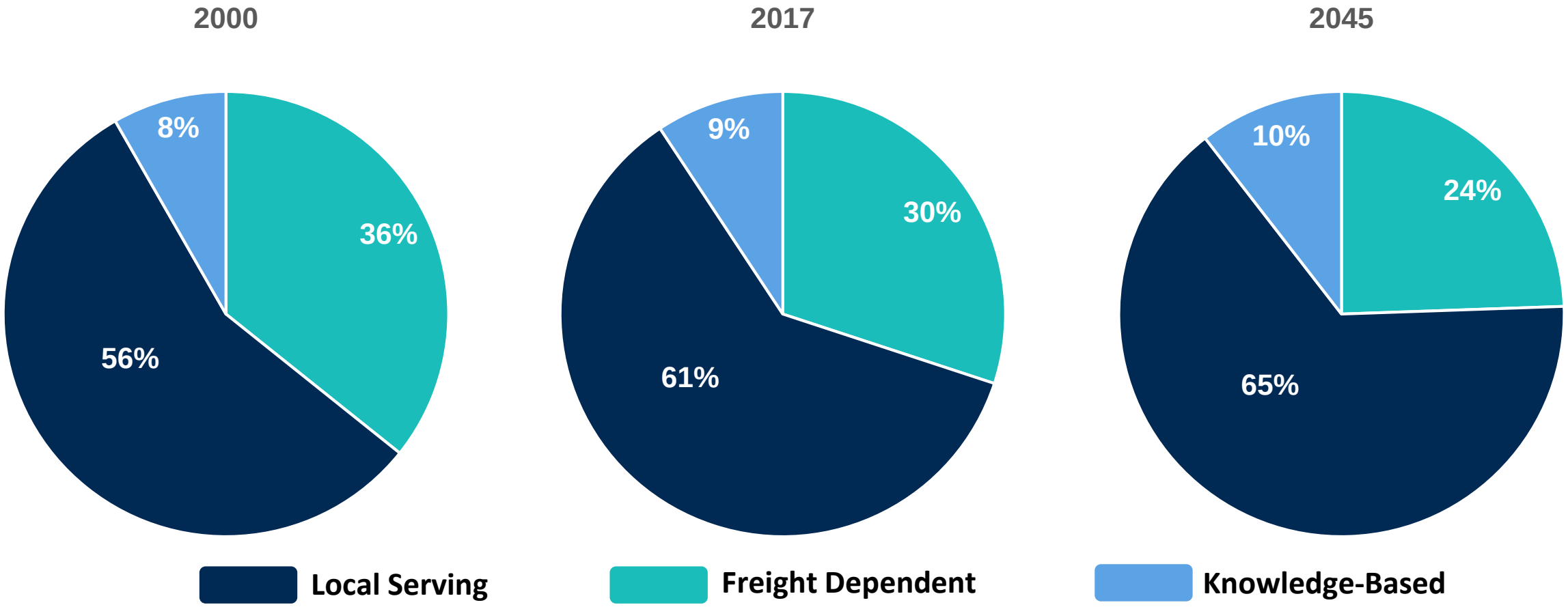
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

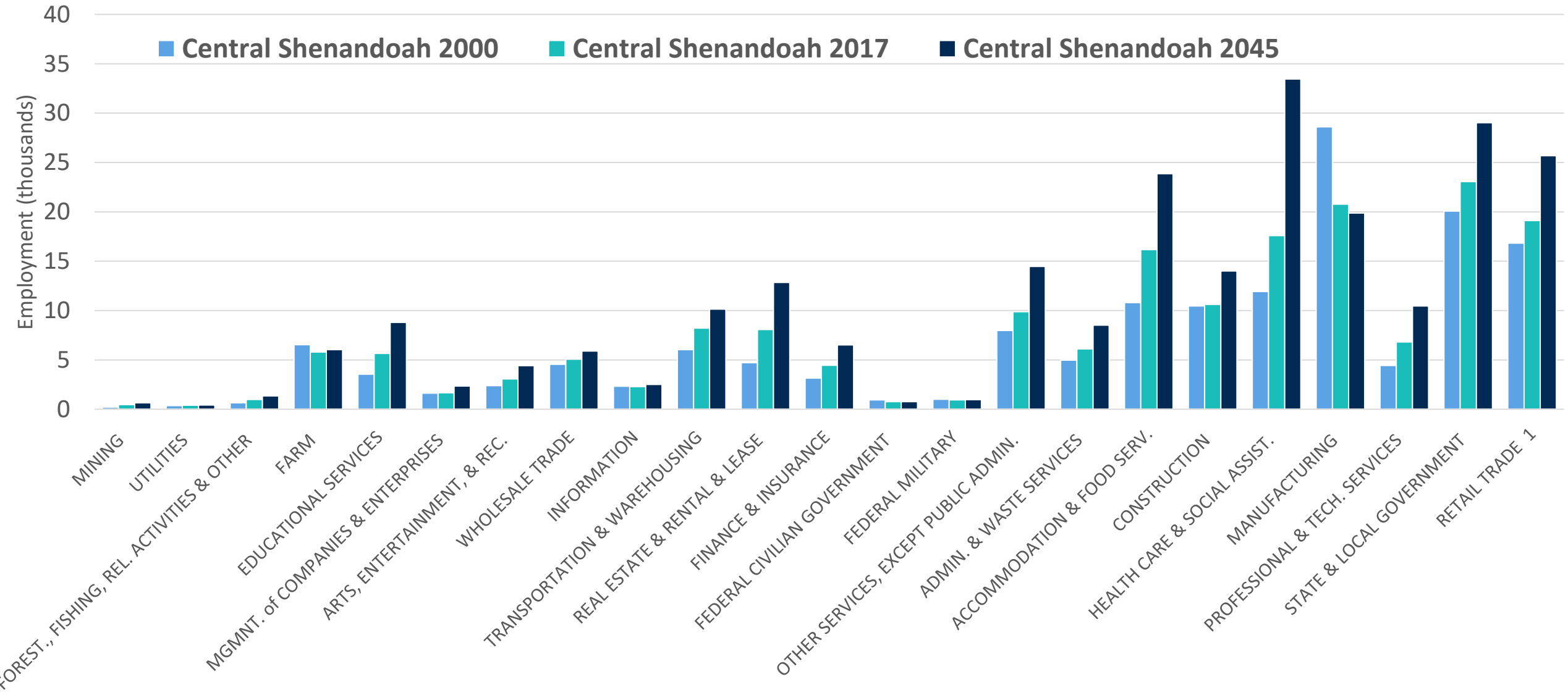
Demographic Trends: PDC Employment by Industry

Accomack-Northampton PDC



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

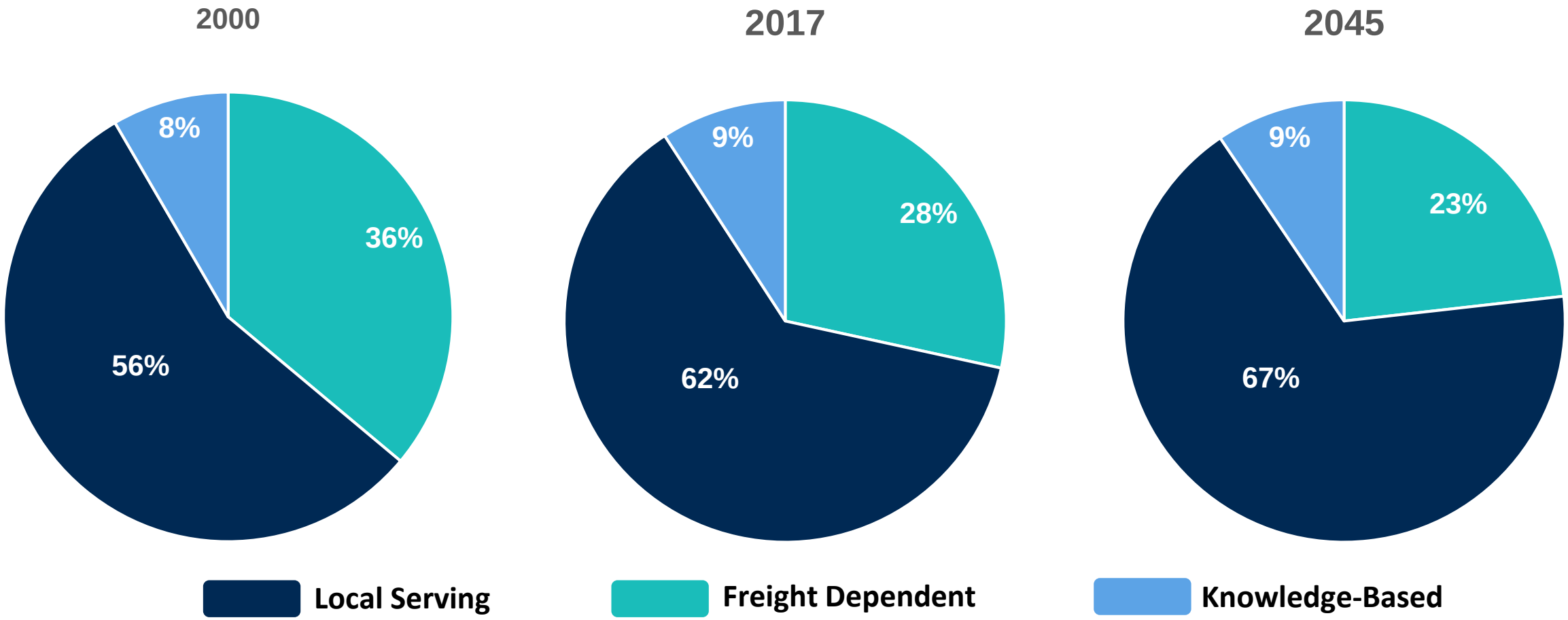
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

Demographic Trends: PDC Employment by Industry

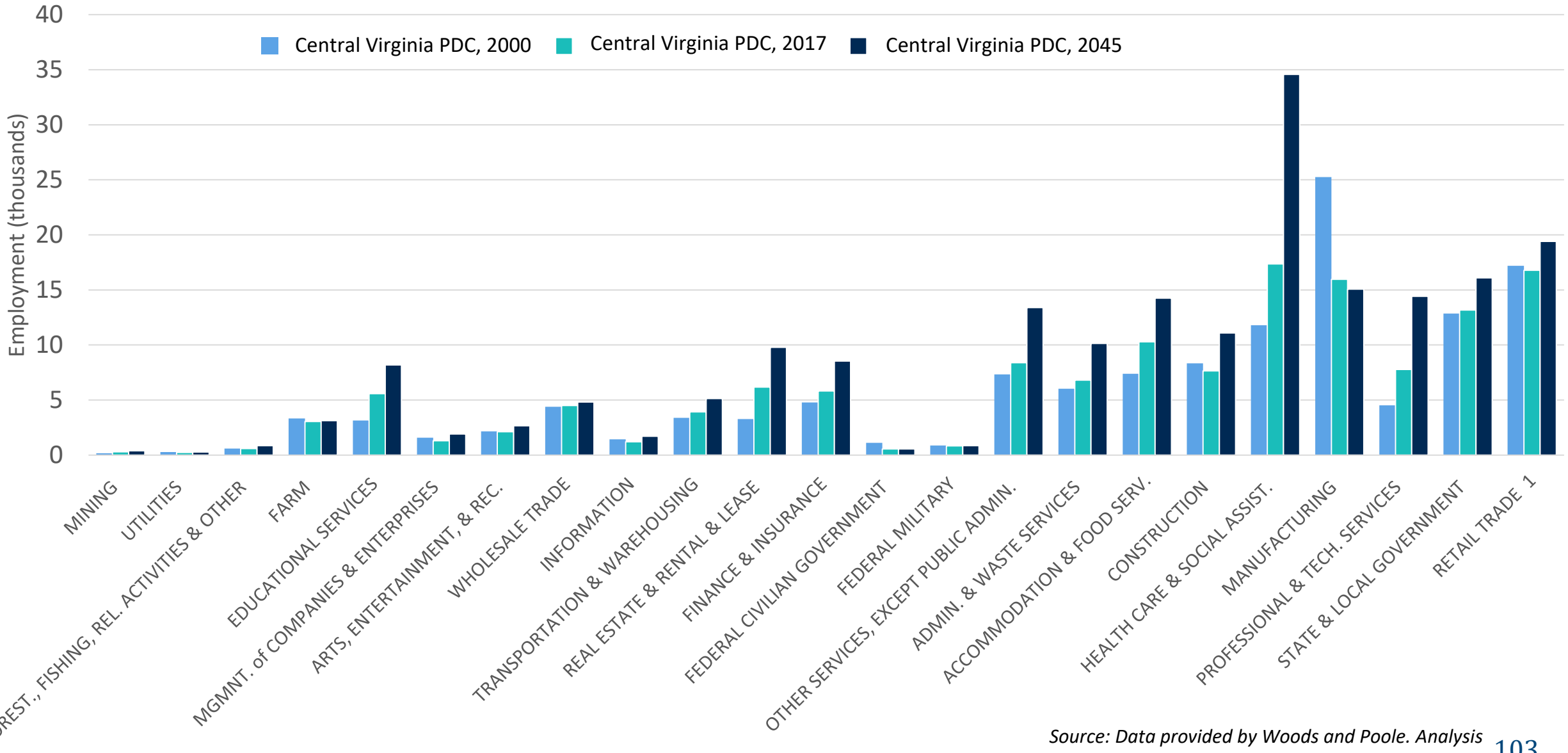
Central Shenandoah PDC



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

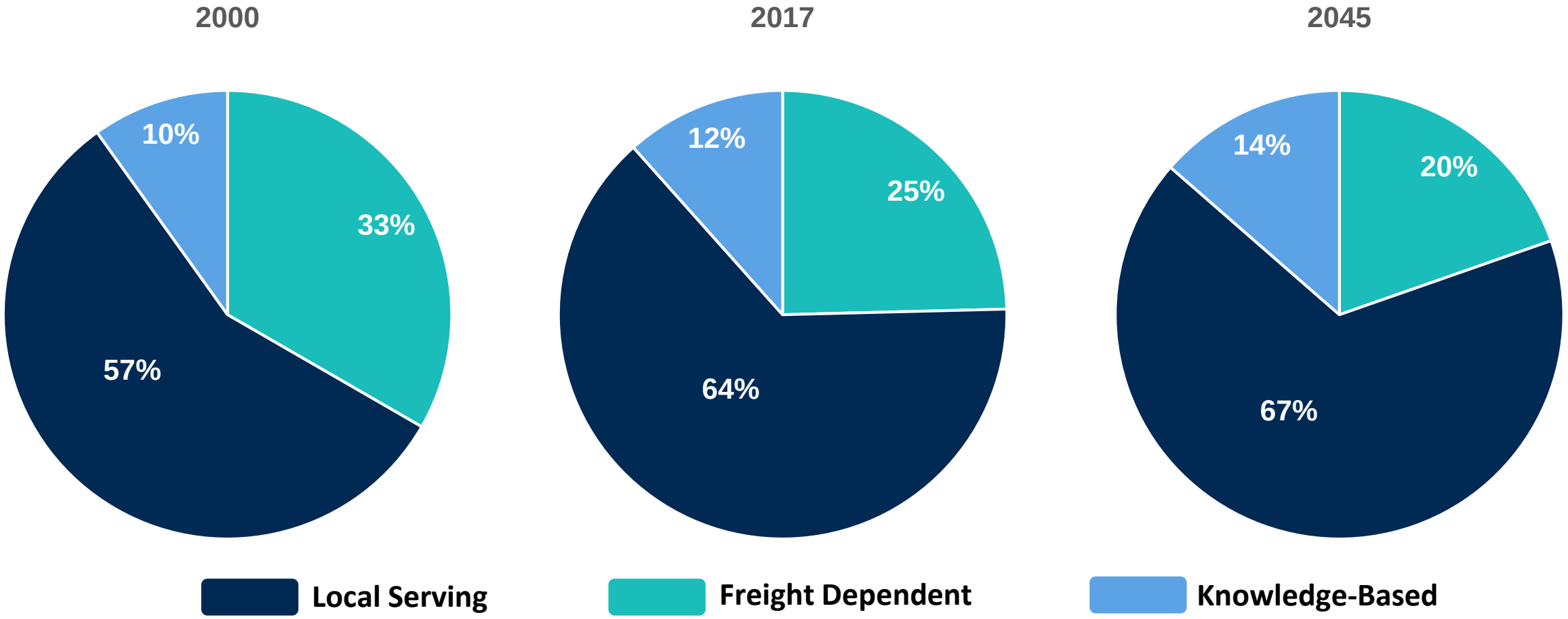
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

Demographic Trends: PDC Employment by Industry

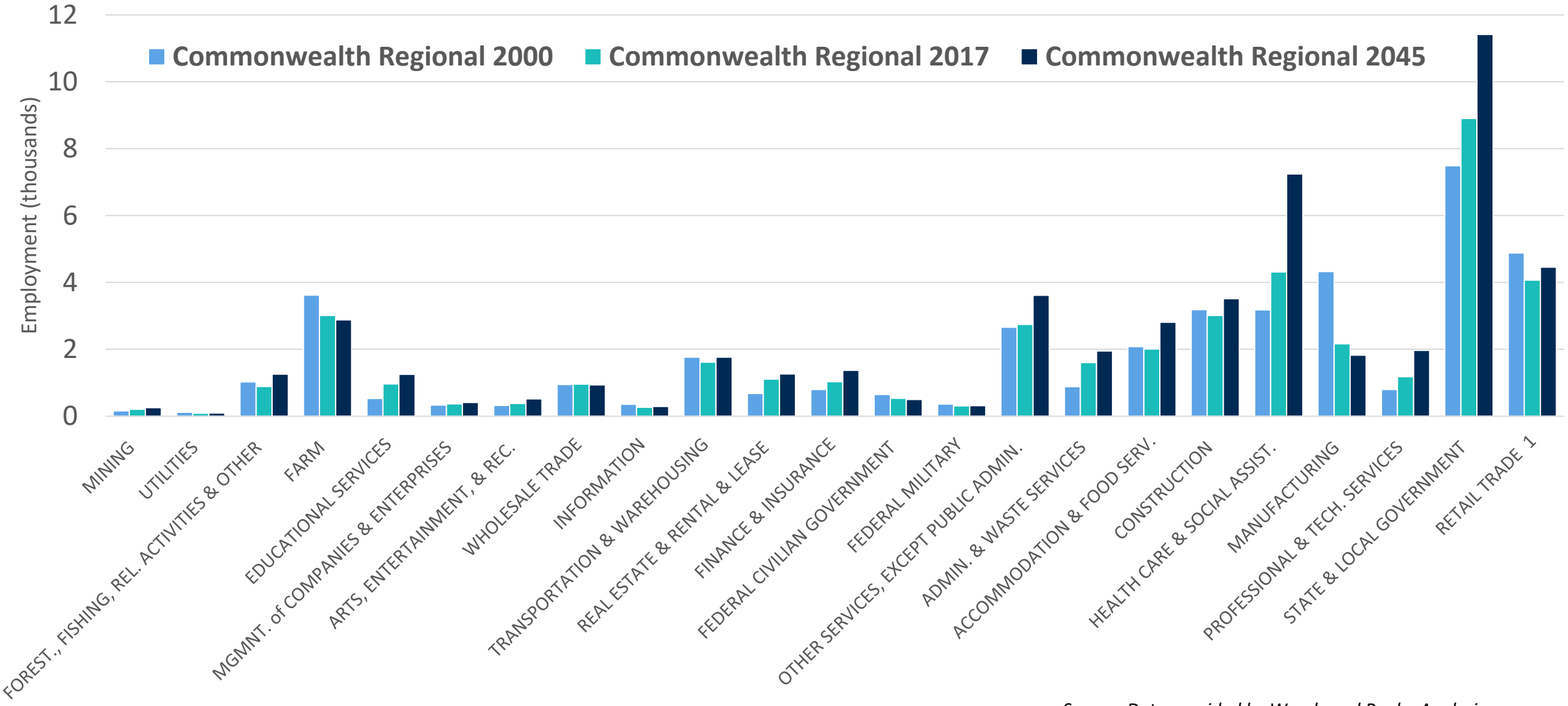
Central Virginia PDC



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

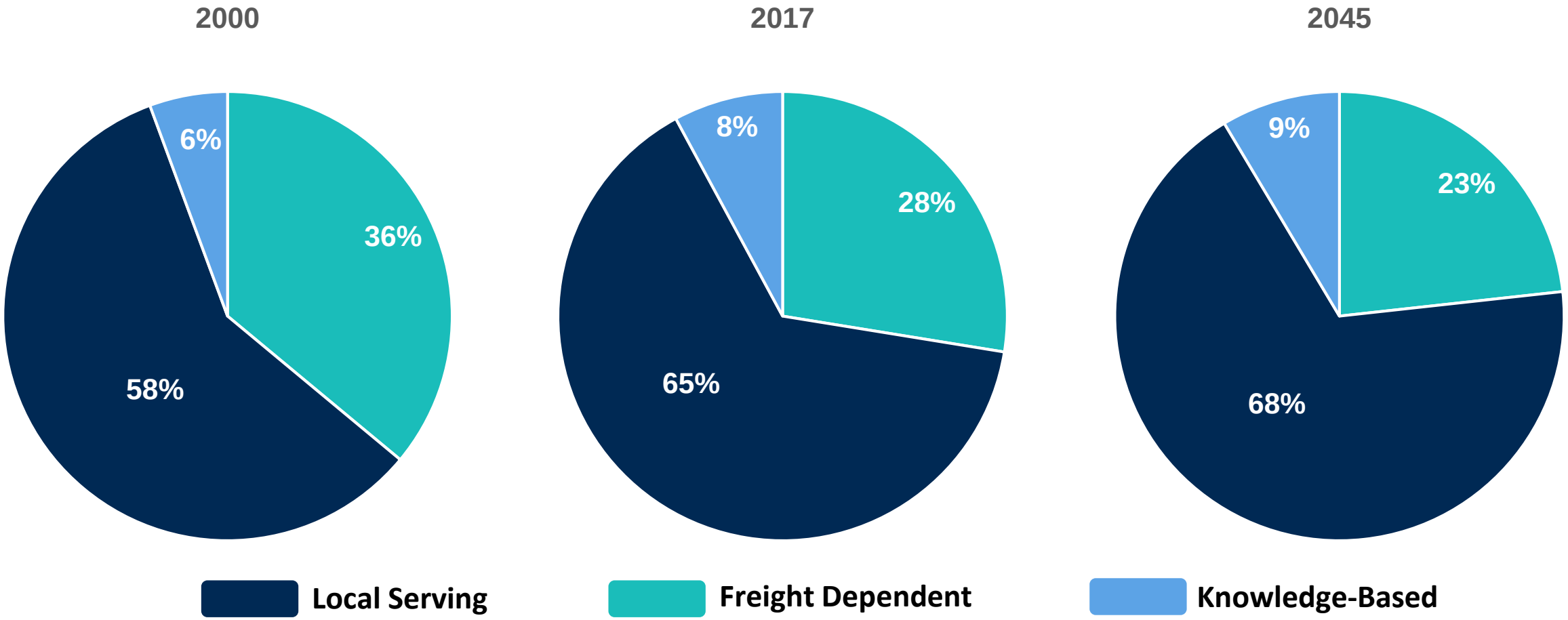
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

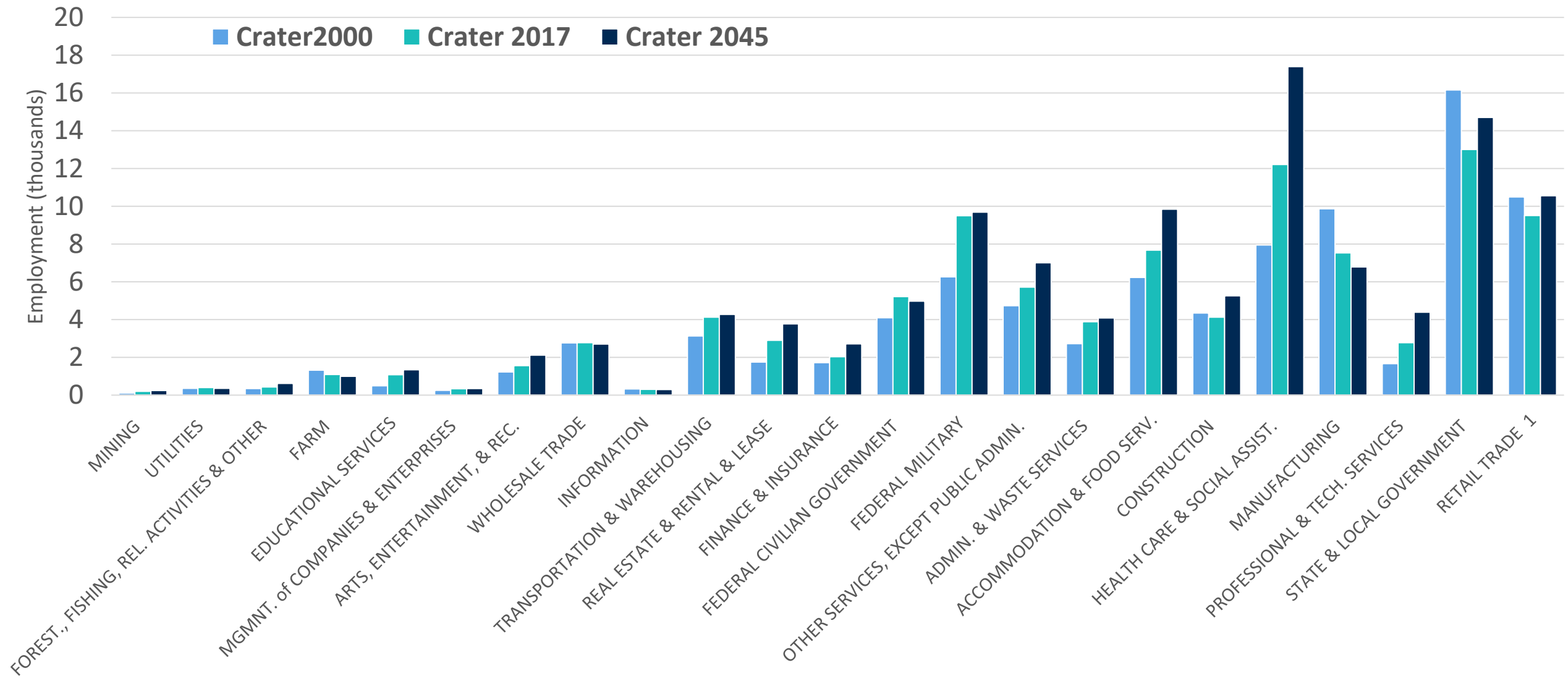
Demographic Trends: PDC Employment by Industry

Commonwealth Regional Council



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

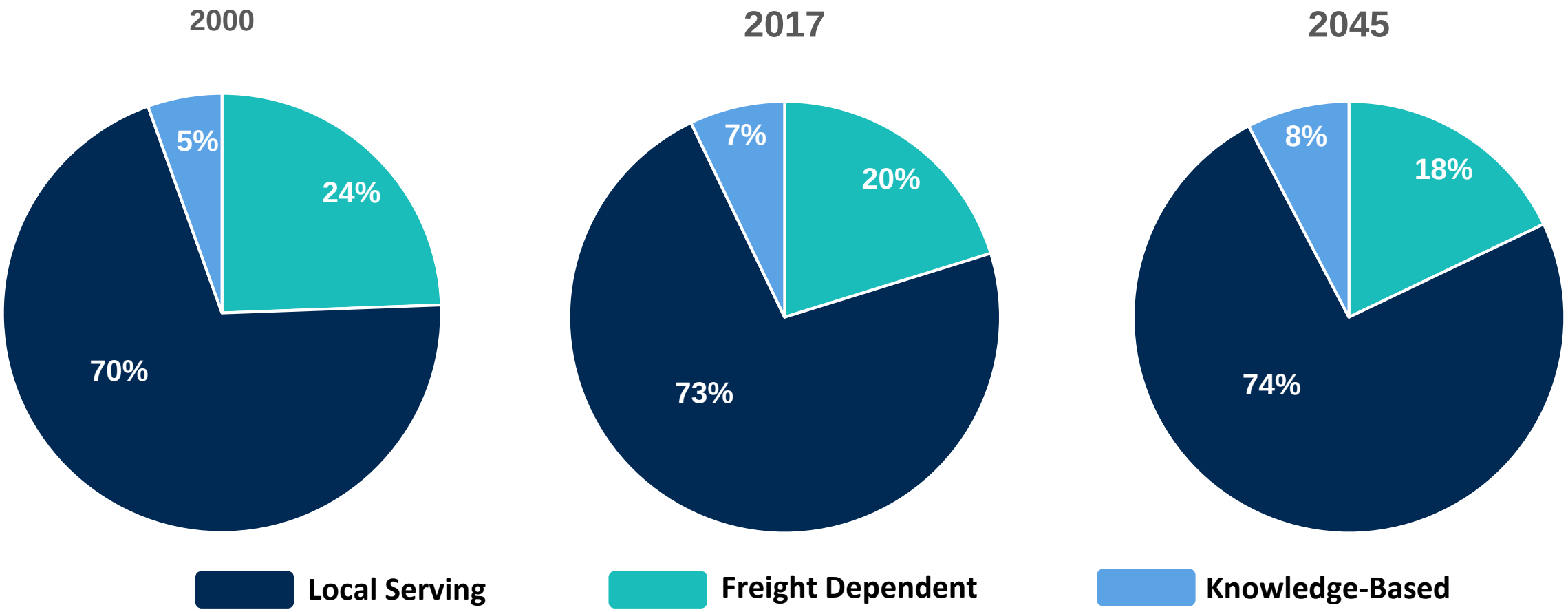
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

Demographic Trends: PDC Employment by Industry

Crater PDC



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

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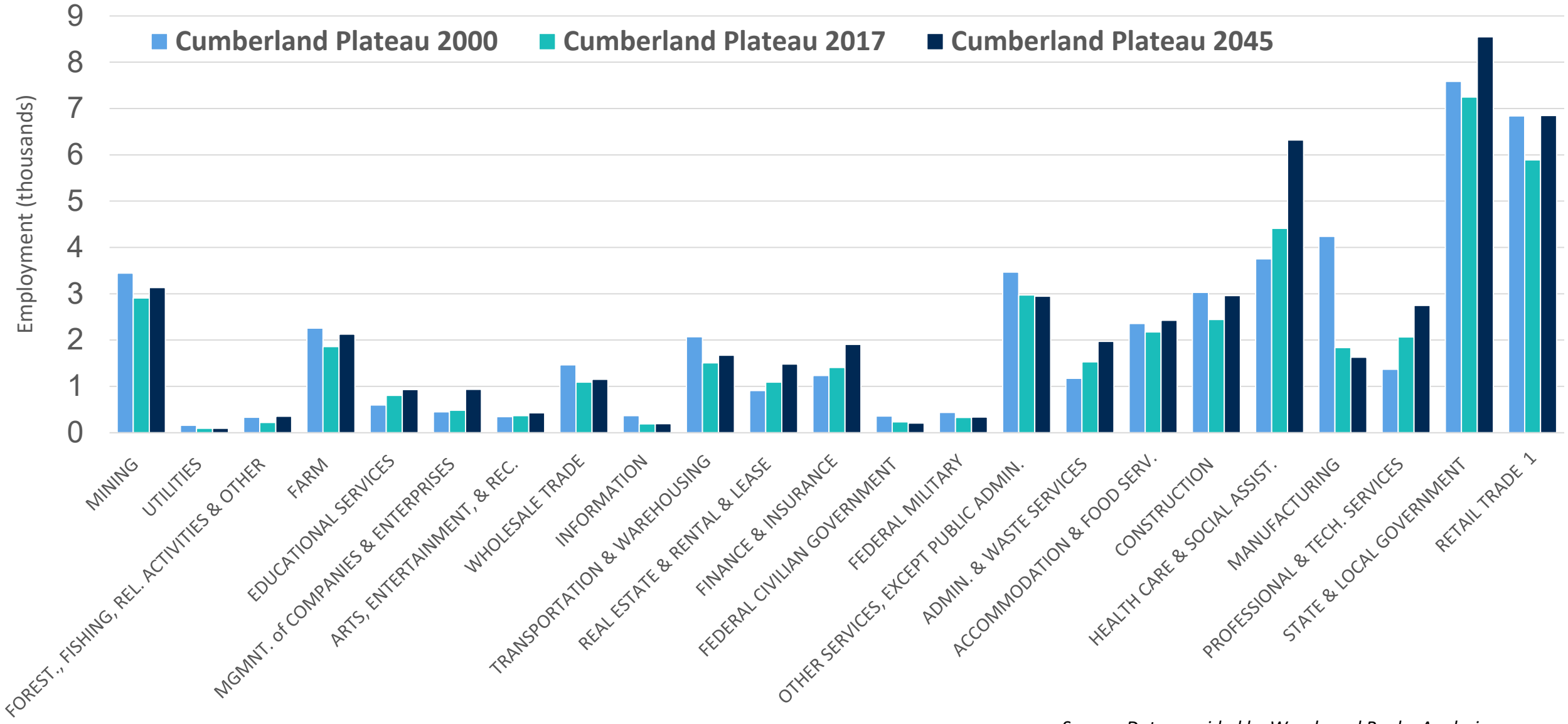
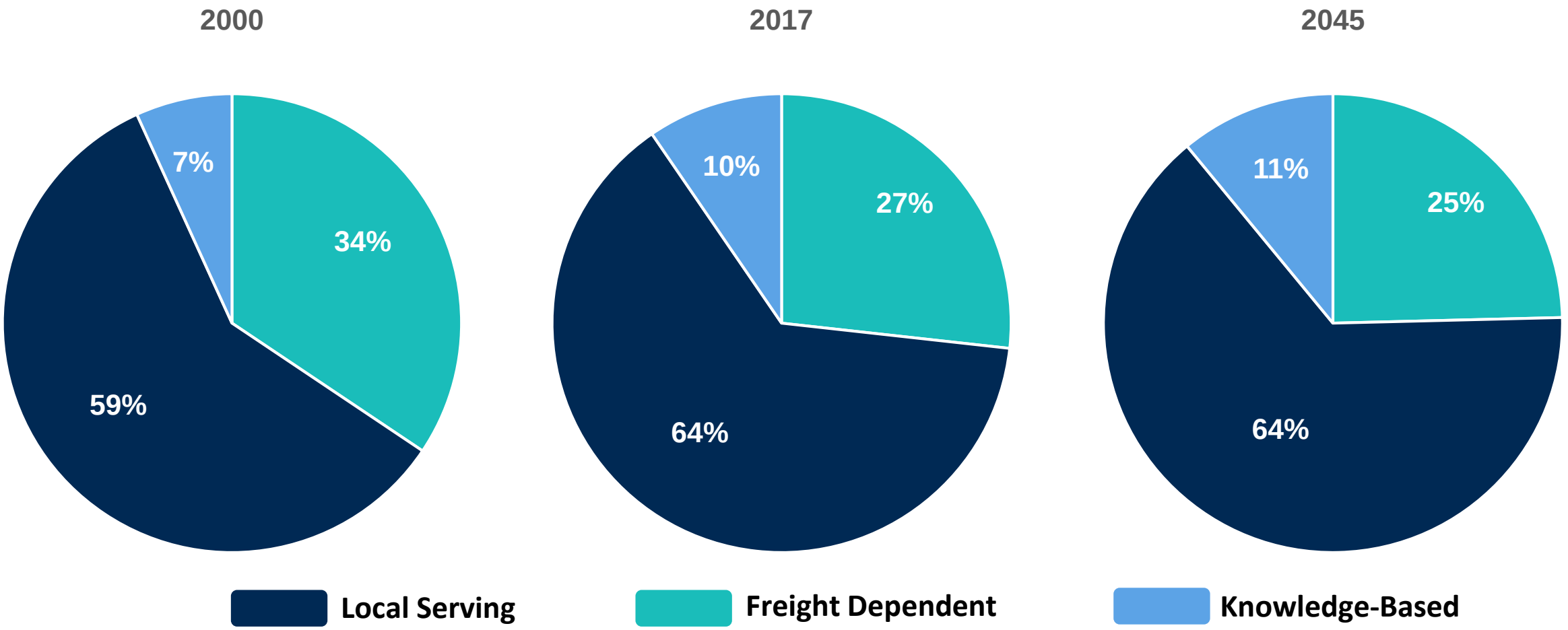
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

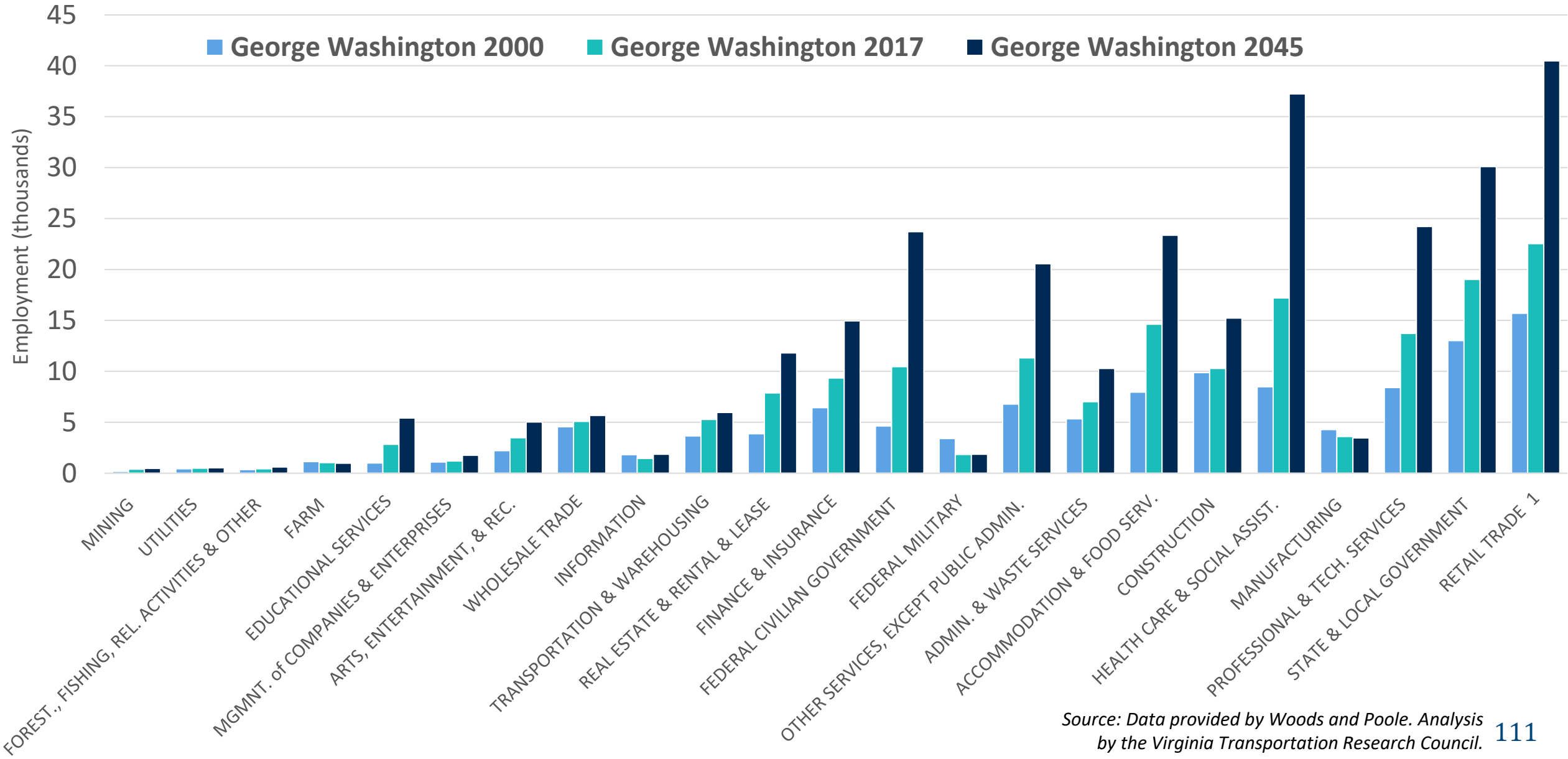
Demographic Trends: PDC Employment by Industry

Cumberland Plateau PDC



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

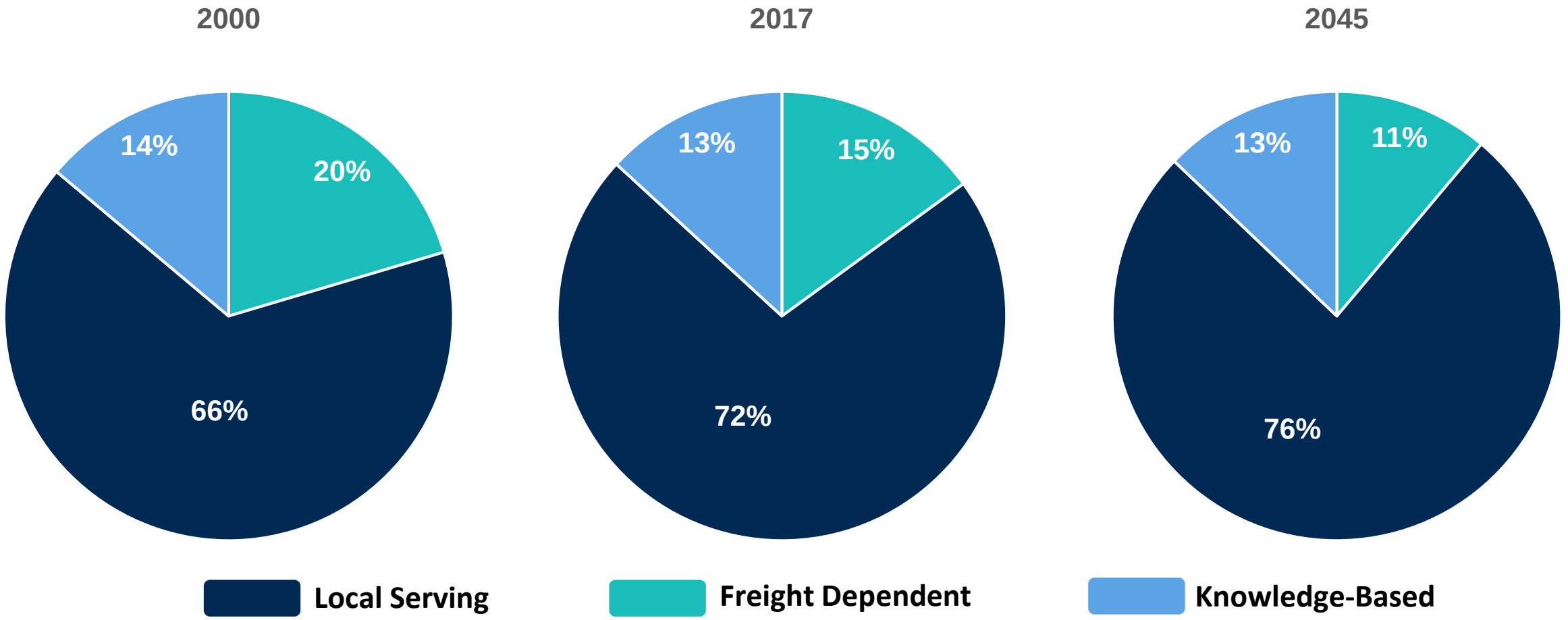
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

Demographic Trends: PDC Employment by Industry

George Washington RC



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

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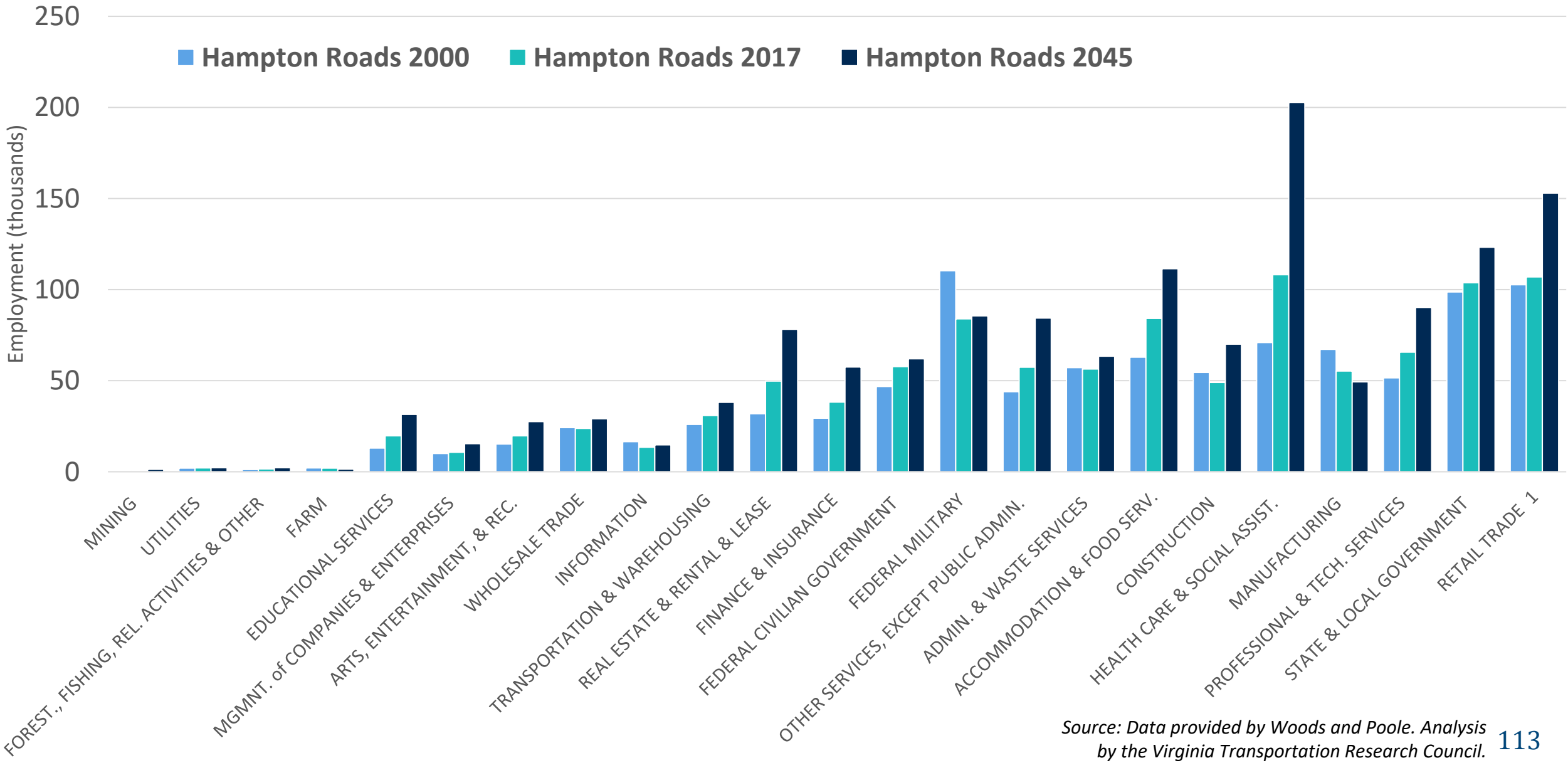
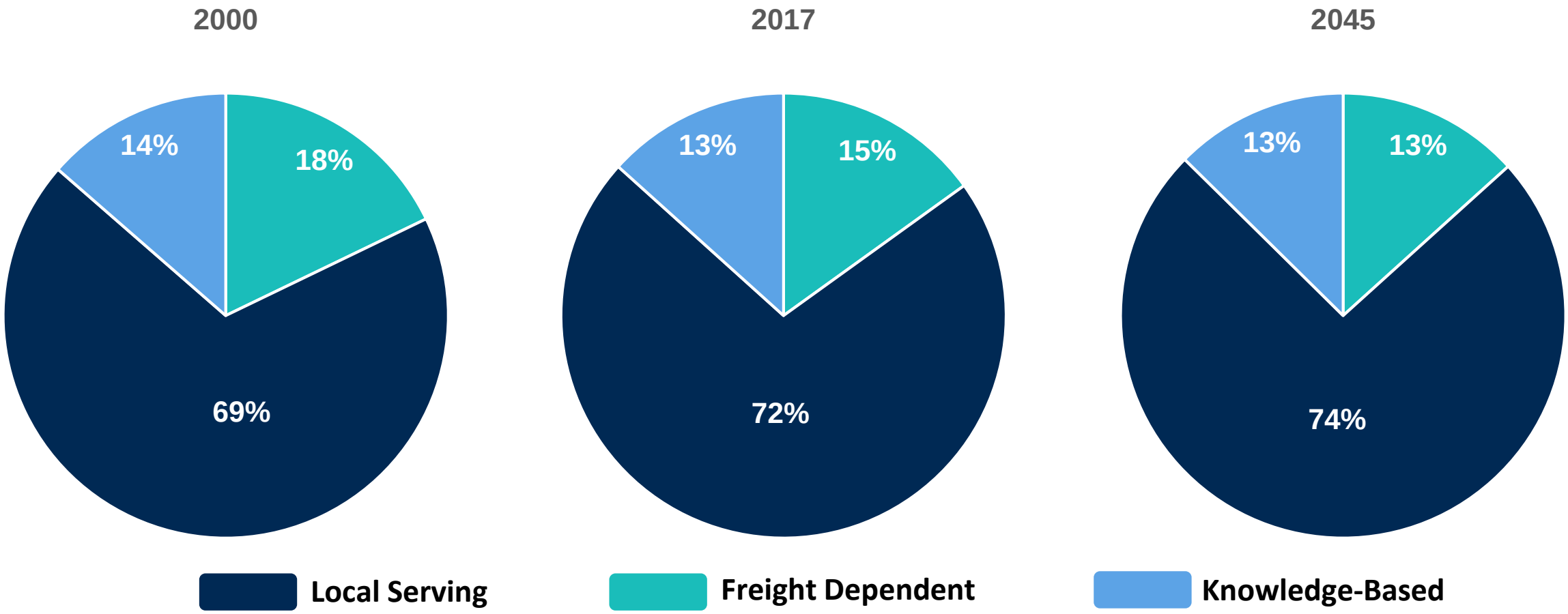
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

Demographic Trends: PDC Employment by Industry

Hampton Roads PDC



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

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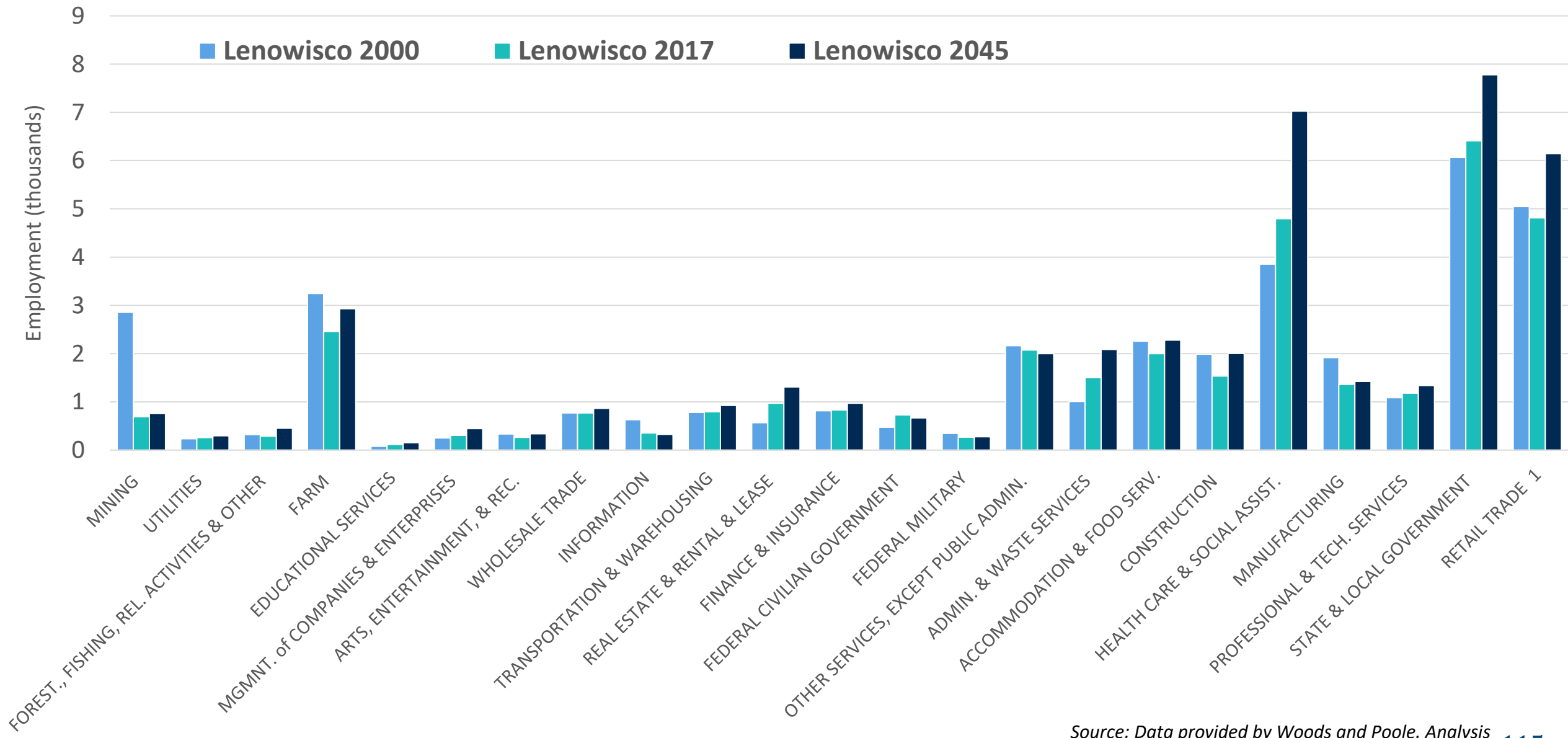
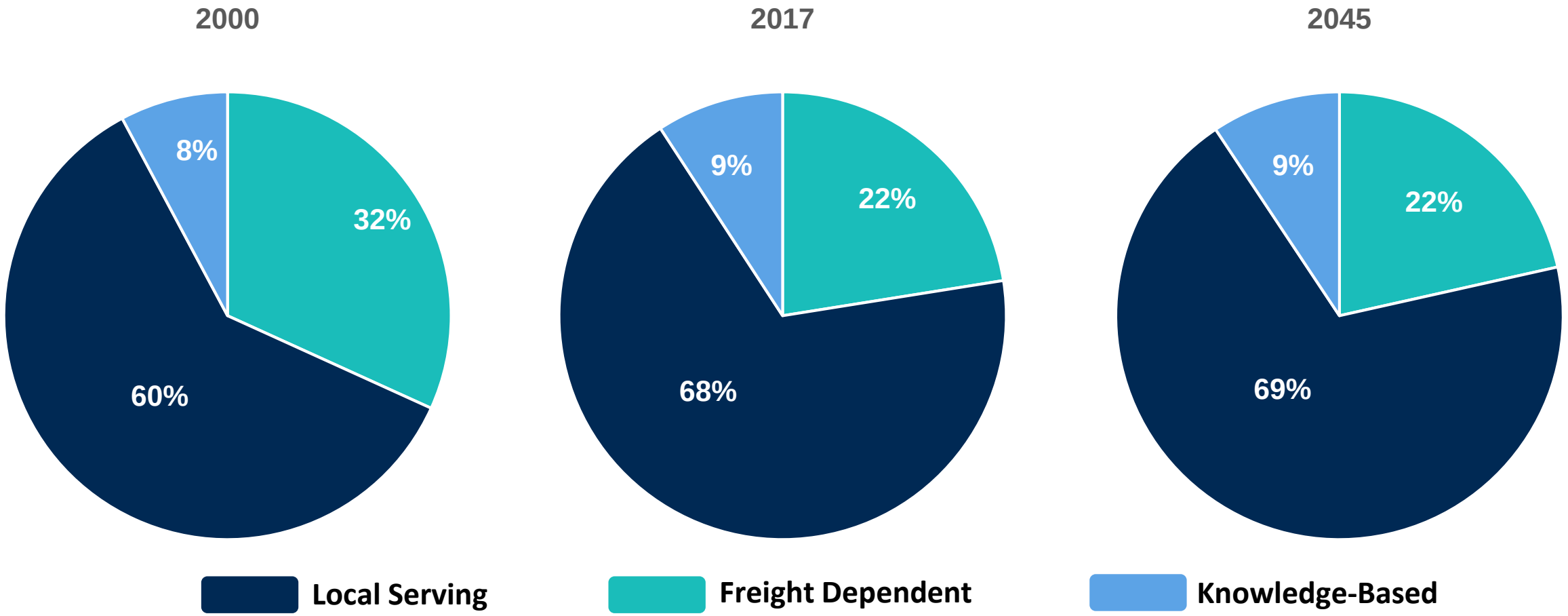
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

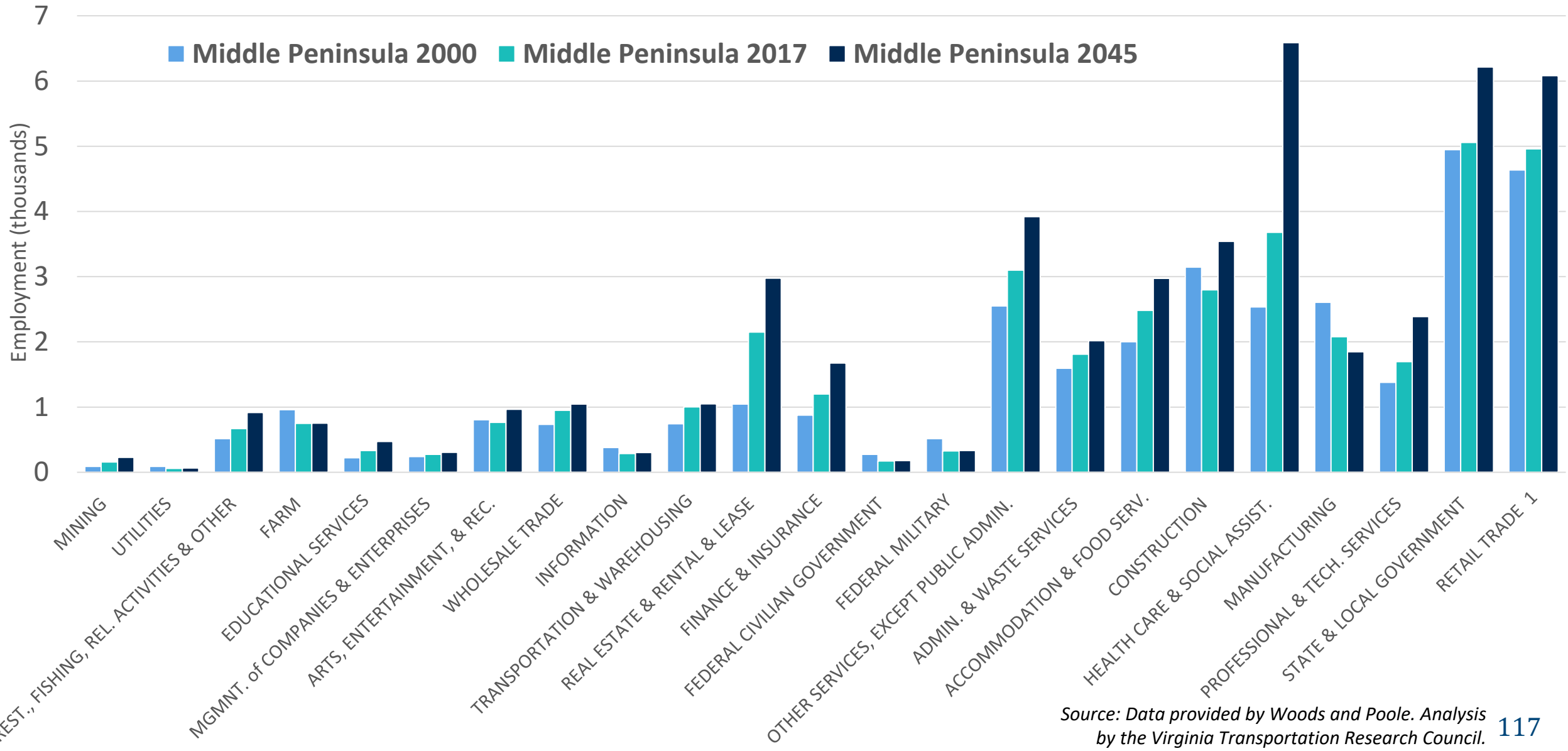
Demographic Trends: PDC Employment by Industry

Lenowisco PDC



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



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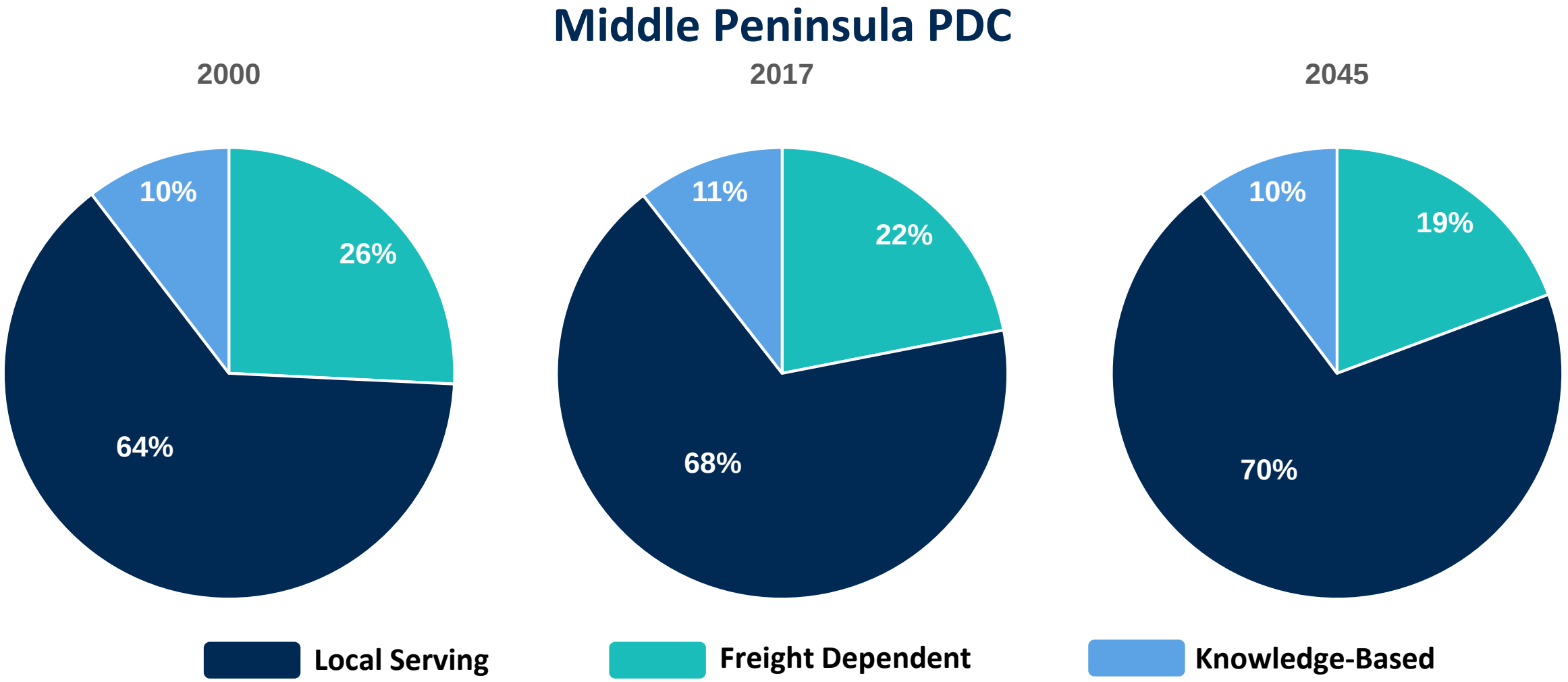
Demographic Trends: PDC Employment by Industry



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

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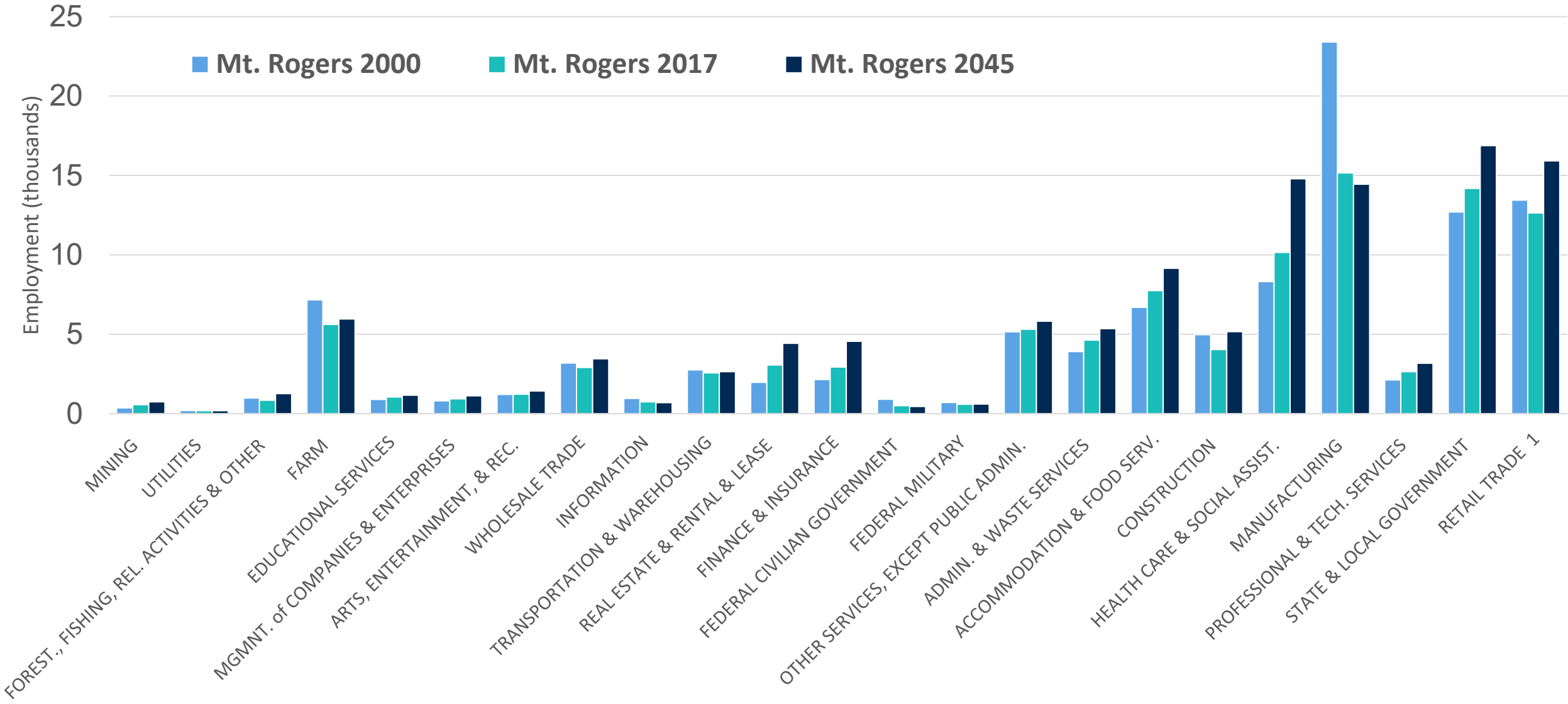
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



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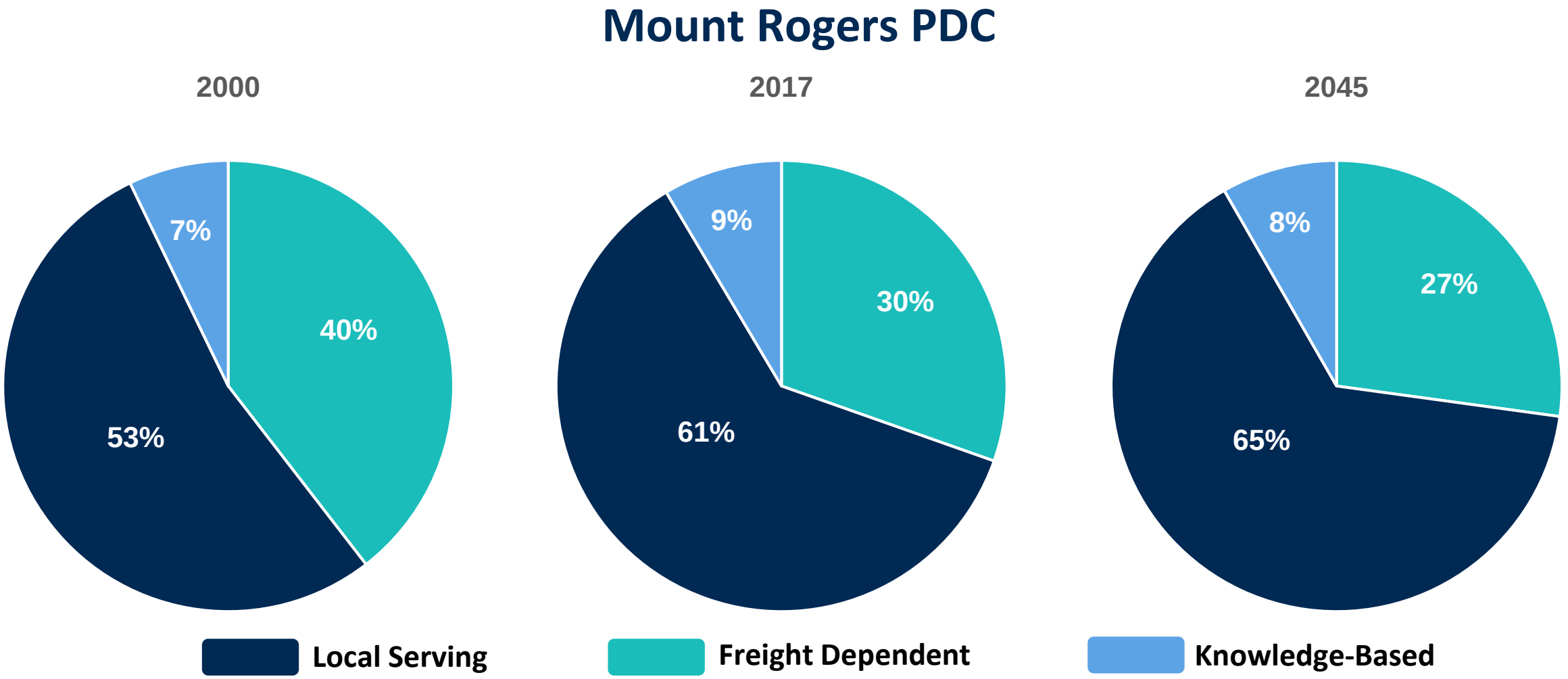
Demographic Trends: PDC Employment by Industry



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

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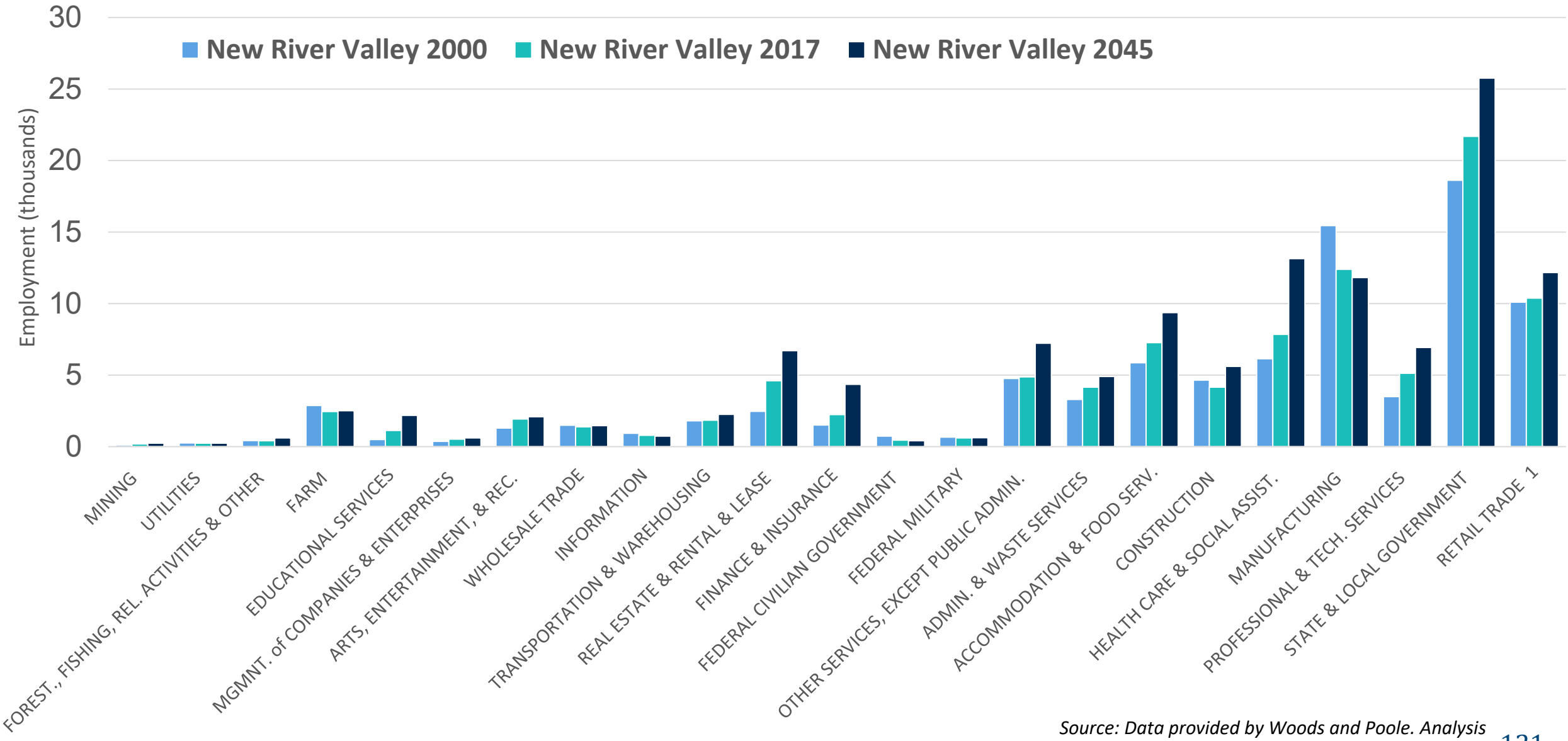
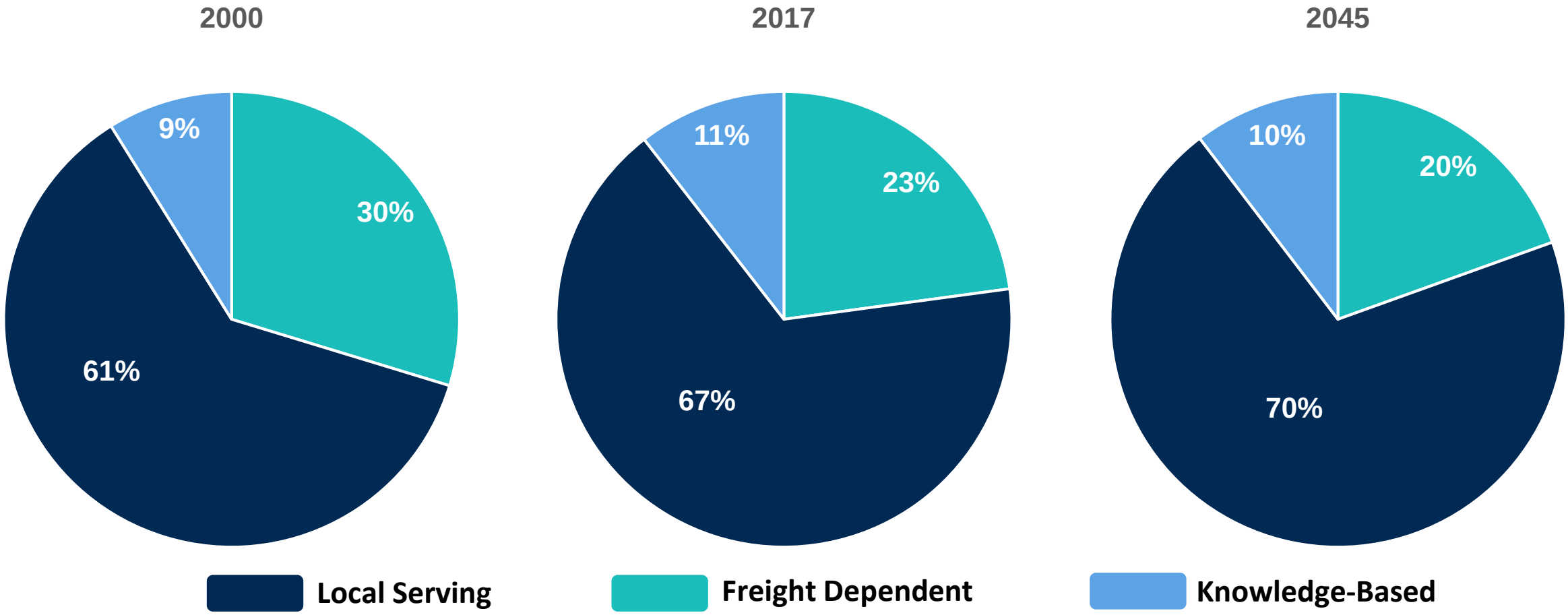
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

Demographic Trends: PDC Employment by Industry

New River Valley RC



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

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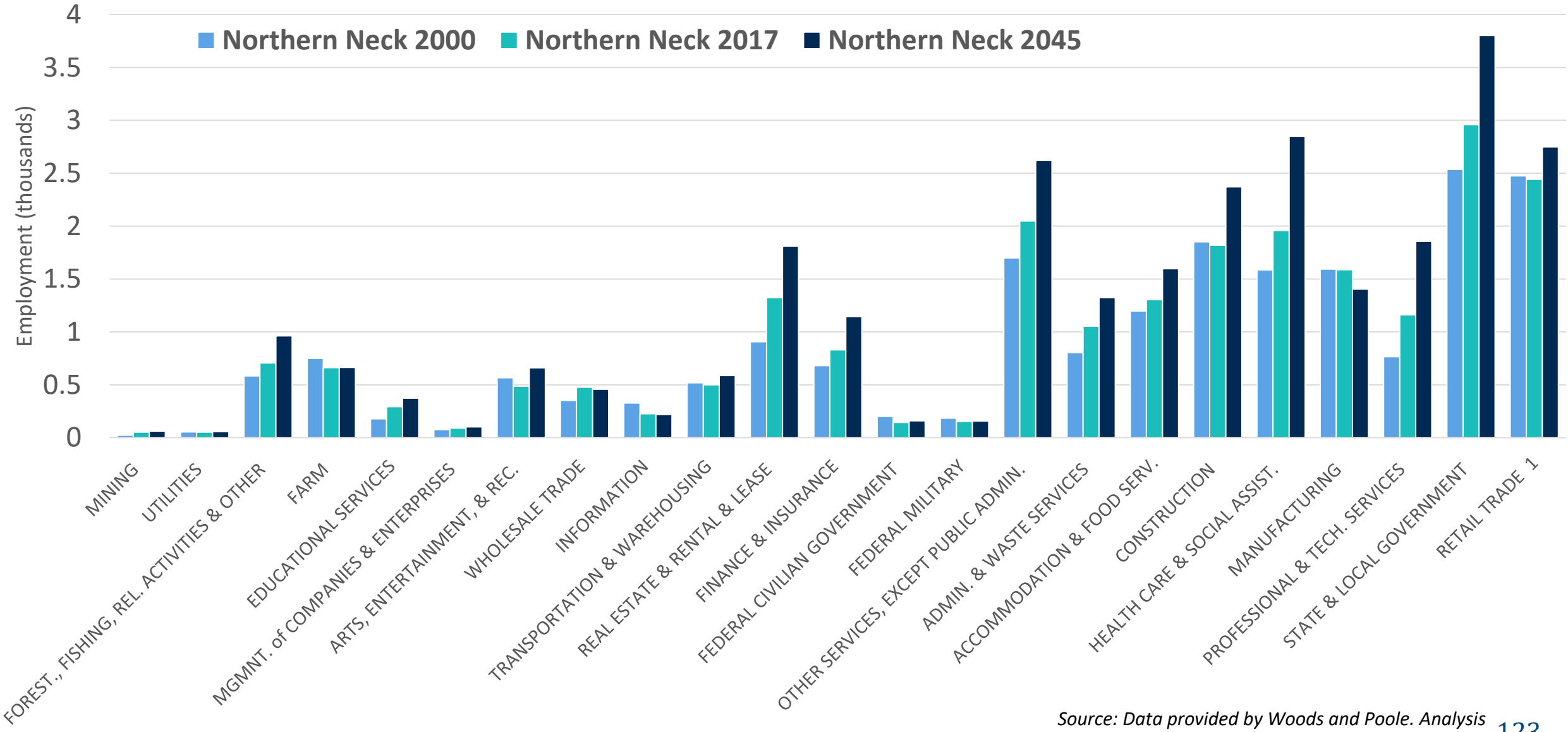
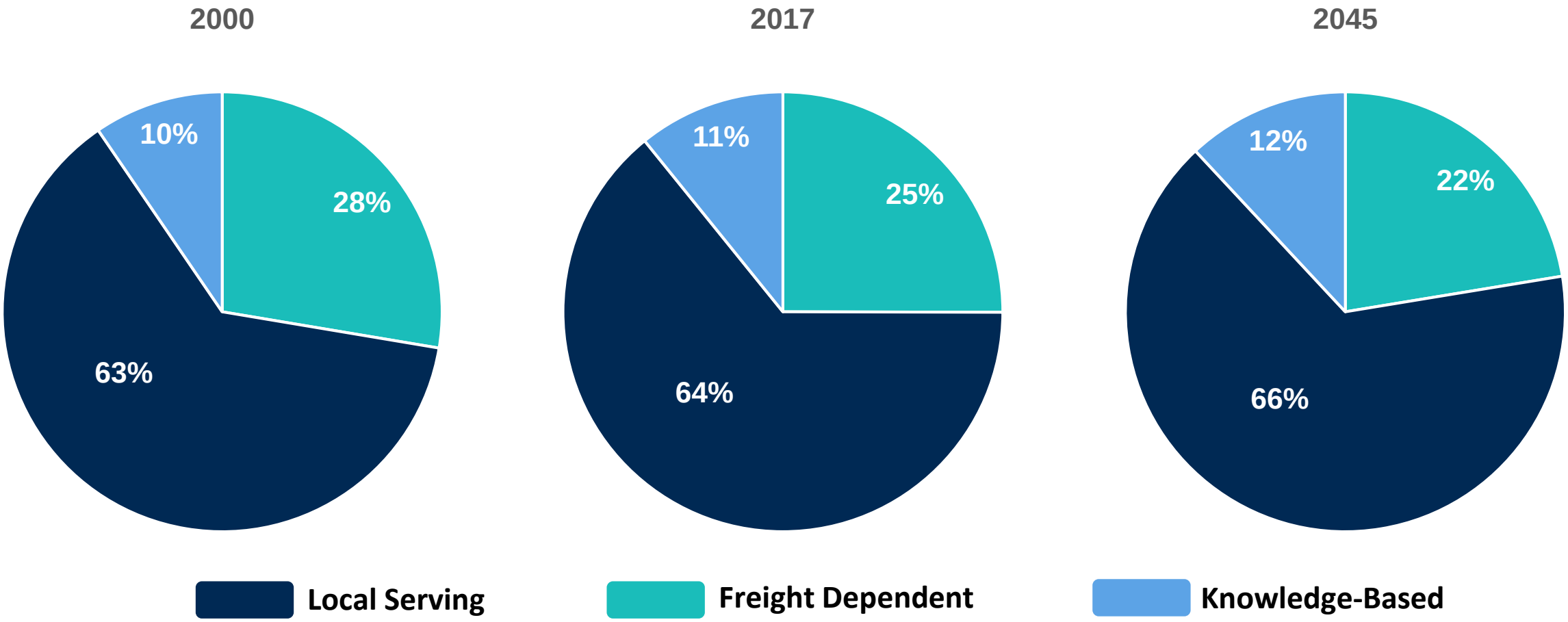
Demographic Trends: PDC Employment by Industry



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

Demographic Trends: PDC Employment by Industry

Northern Neck PDC



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

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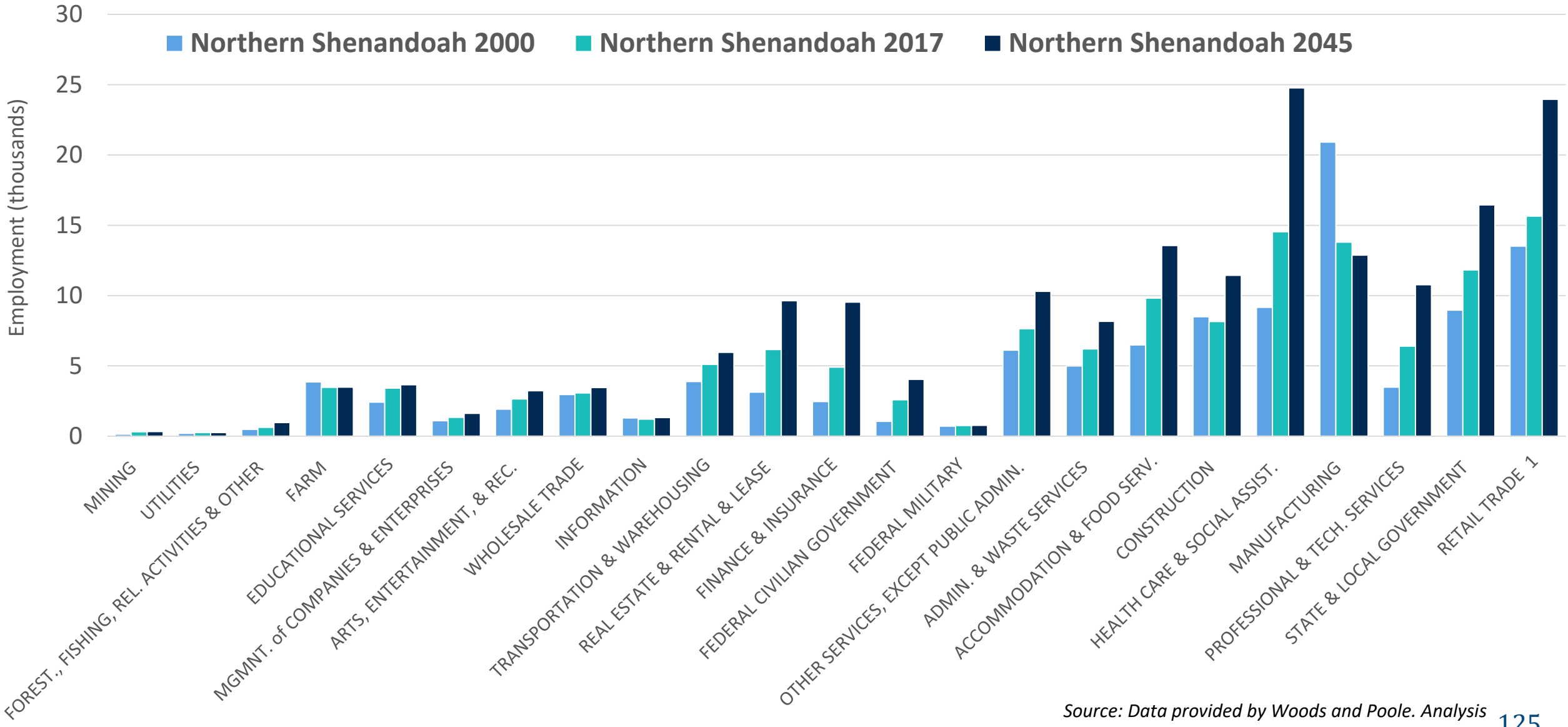
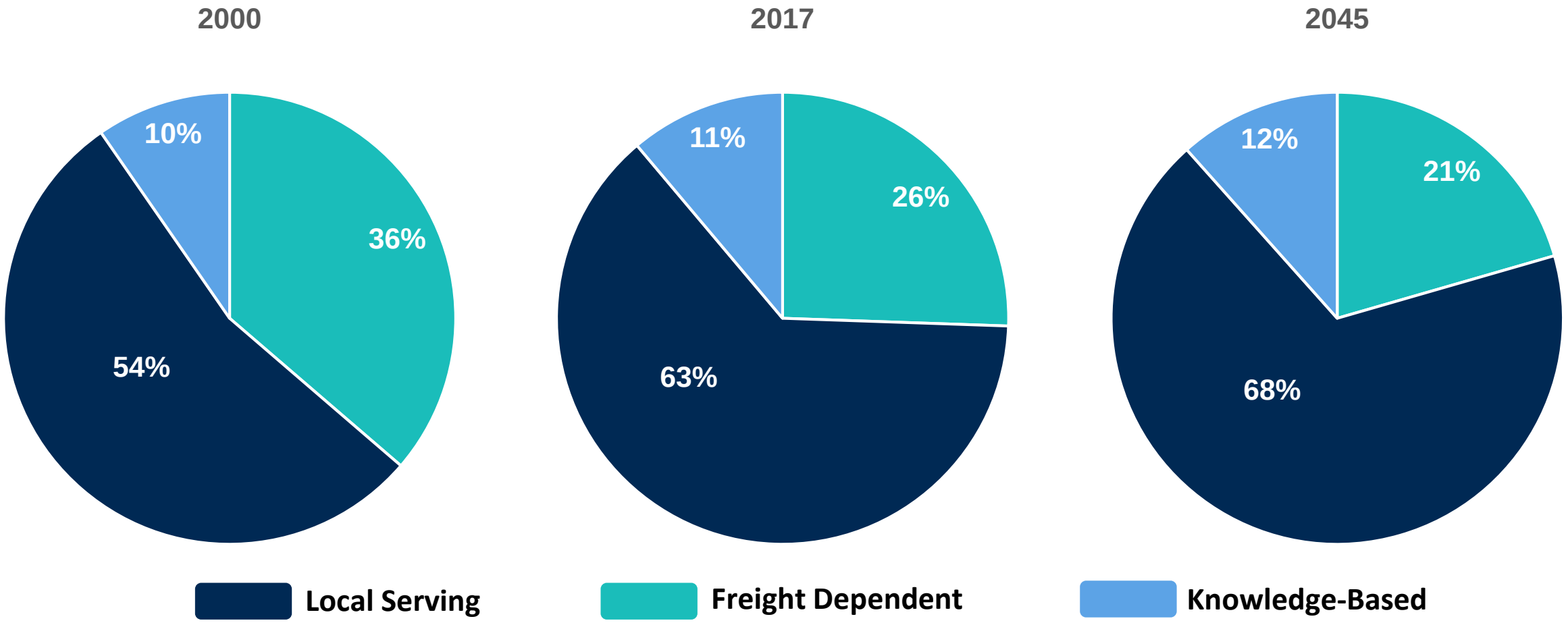
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

Demographic Trends: PDC Employment by Industry

Northern Shenandoah Valley RC



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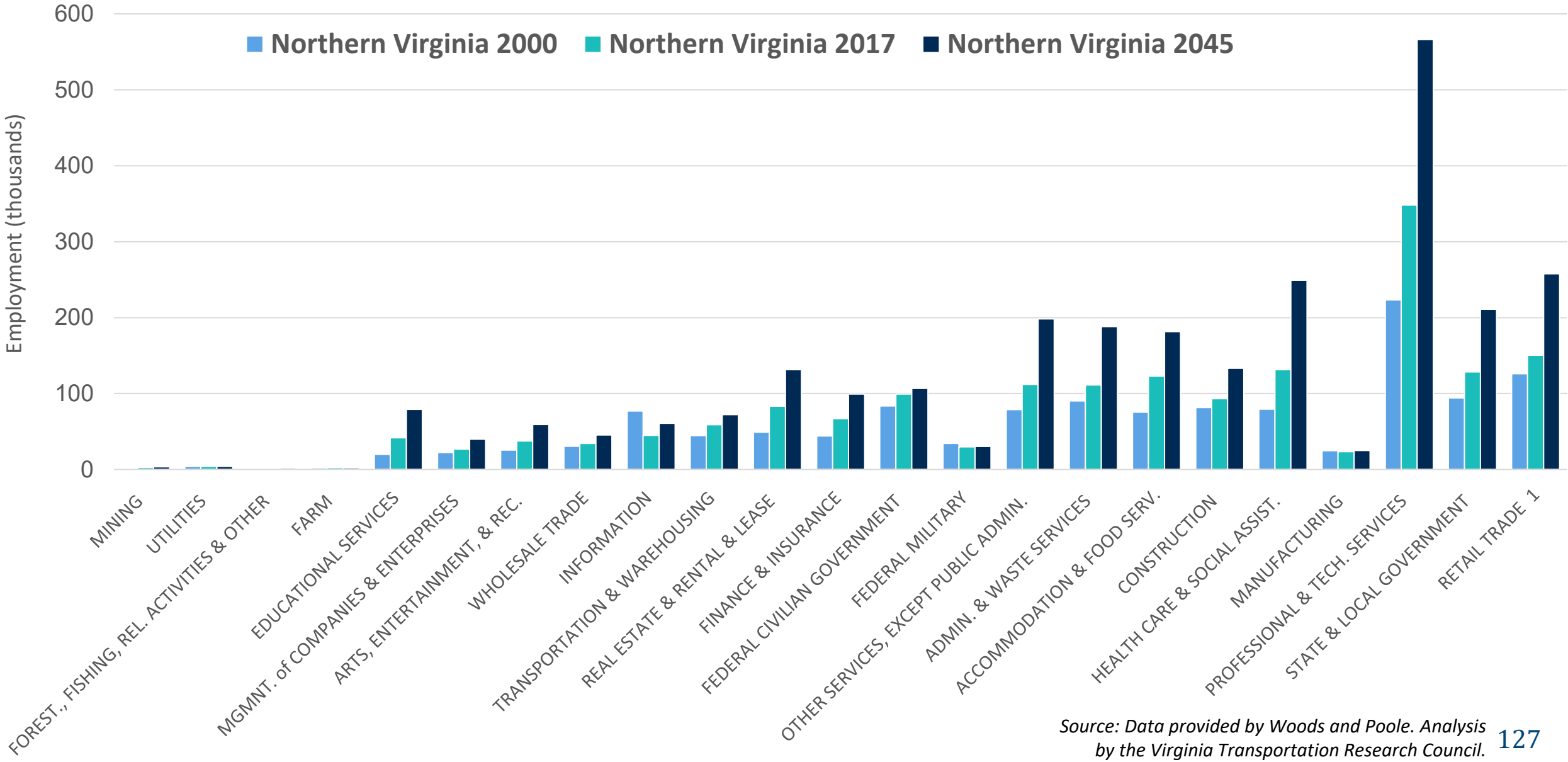
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



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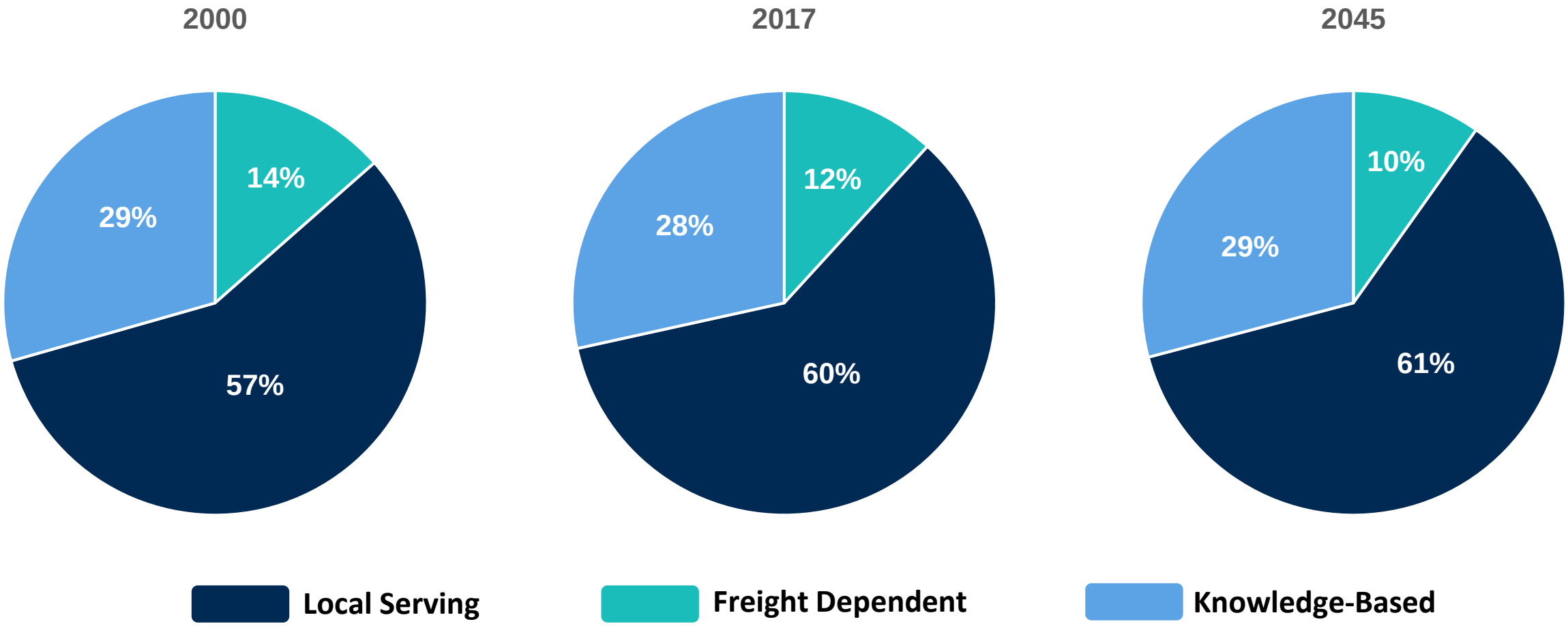
Demographic Trends: PDC Employment by Industry

Northern Virginia RC



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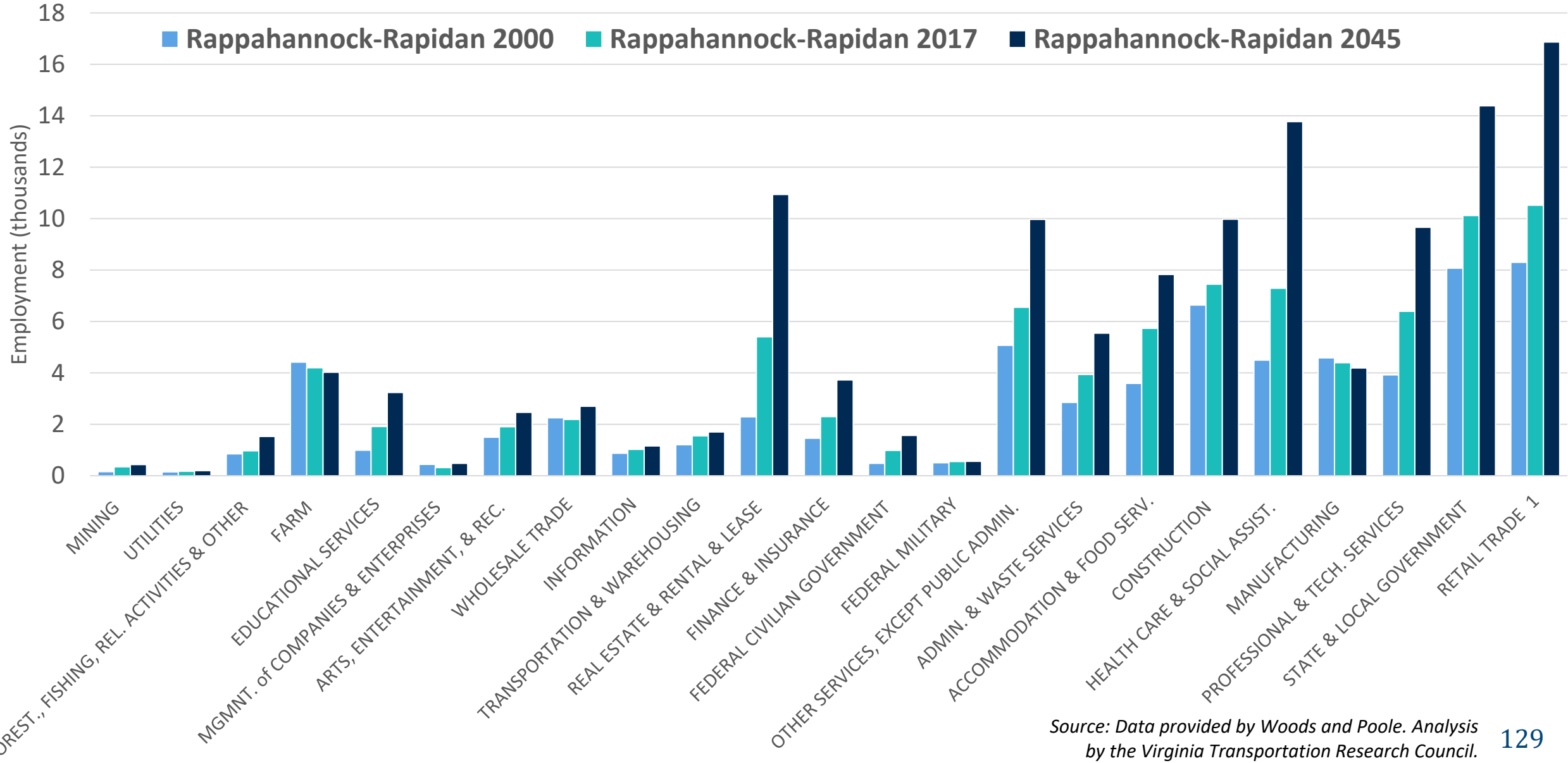
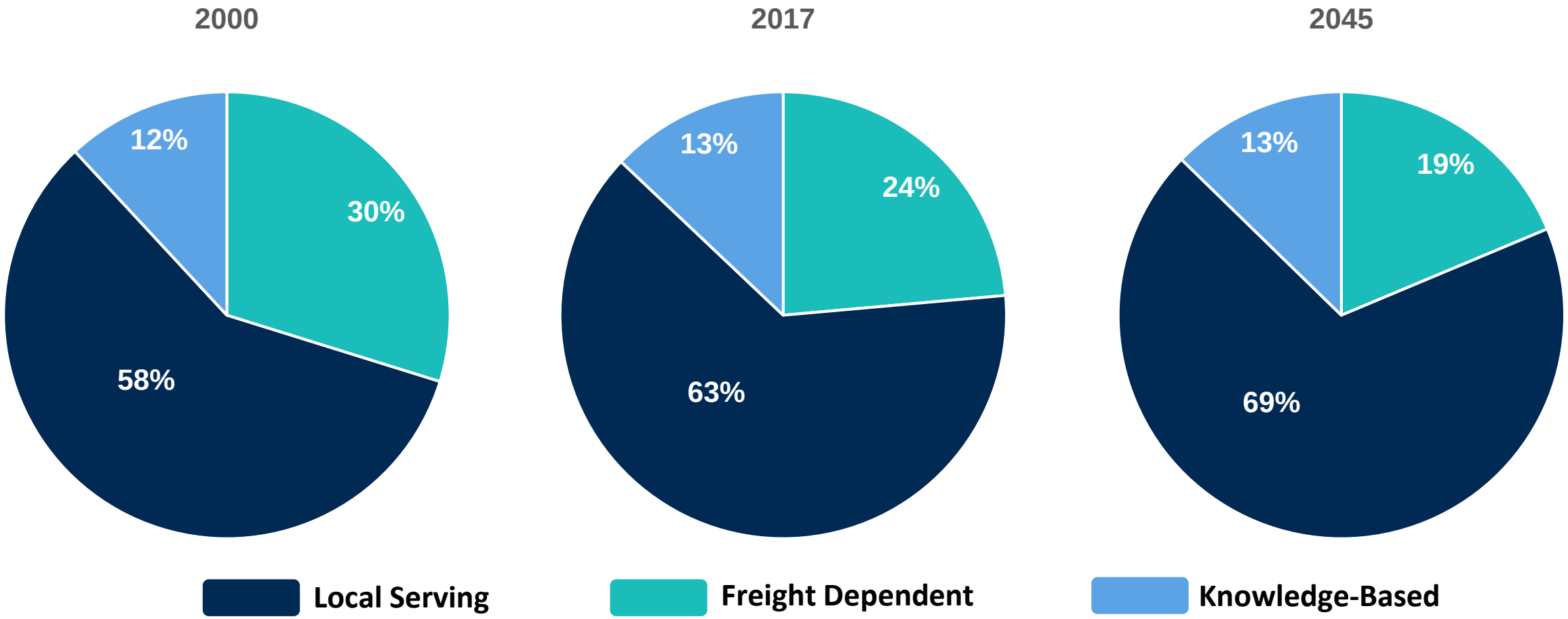
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

Demographic Trends: PDC Employment by Industry

Rappahannock-Rapidan RC



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

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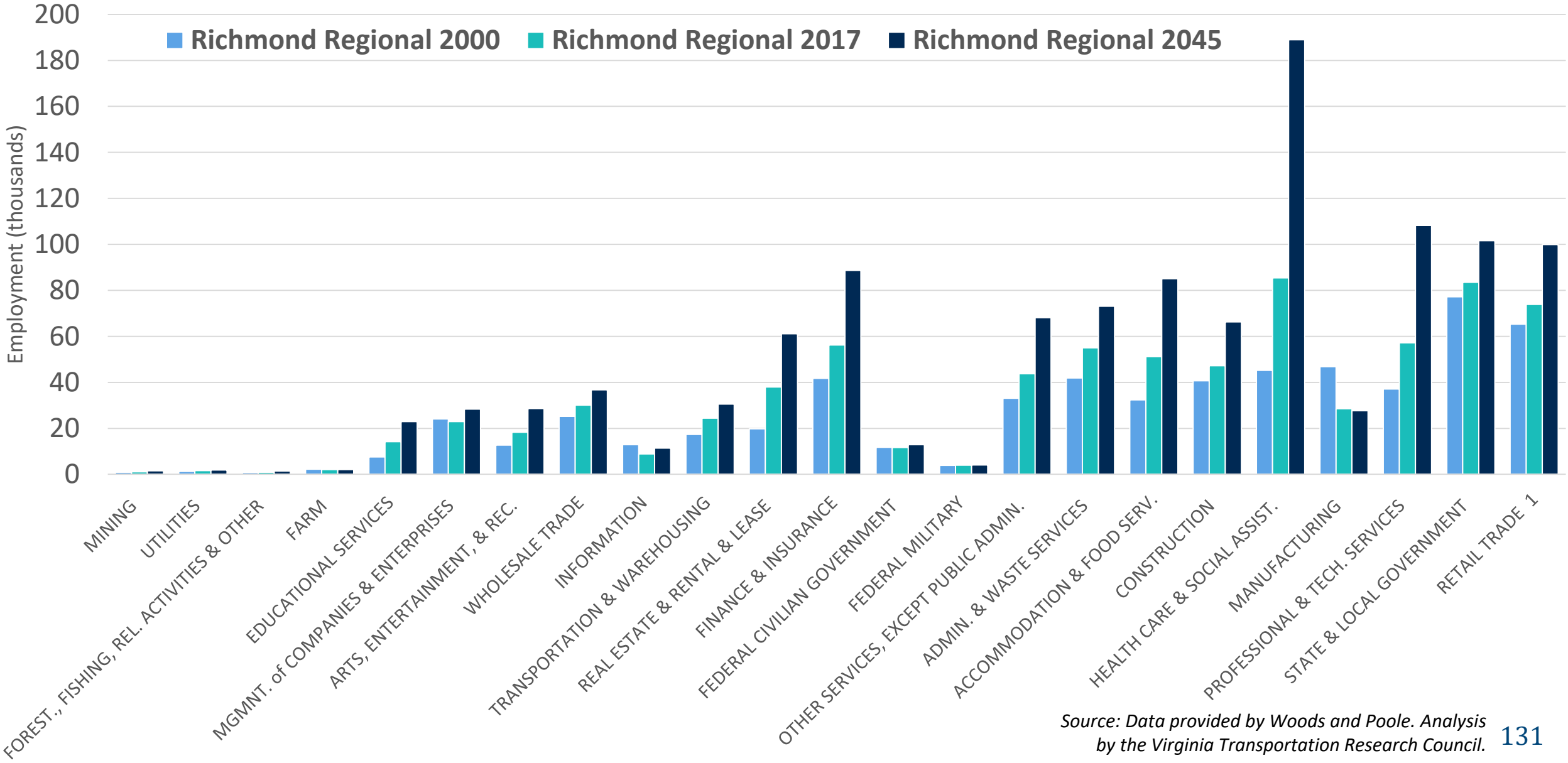
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



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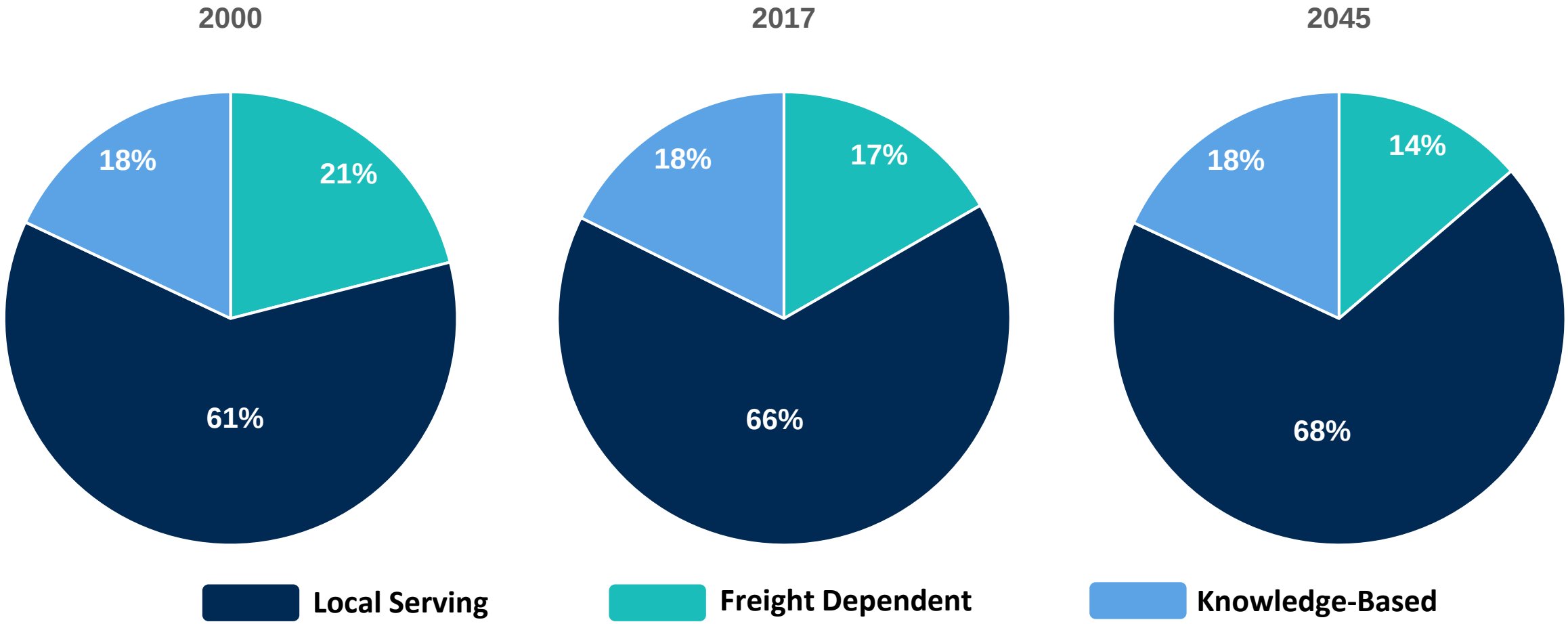
Demographic Trends: PDC Employment by Industry

Richmond Regional PDC



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

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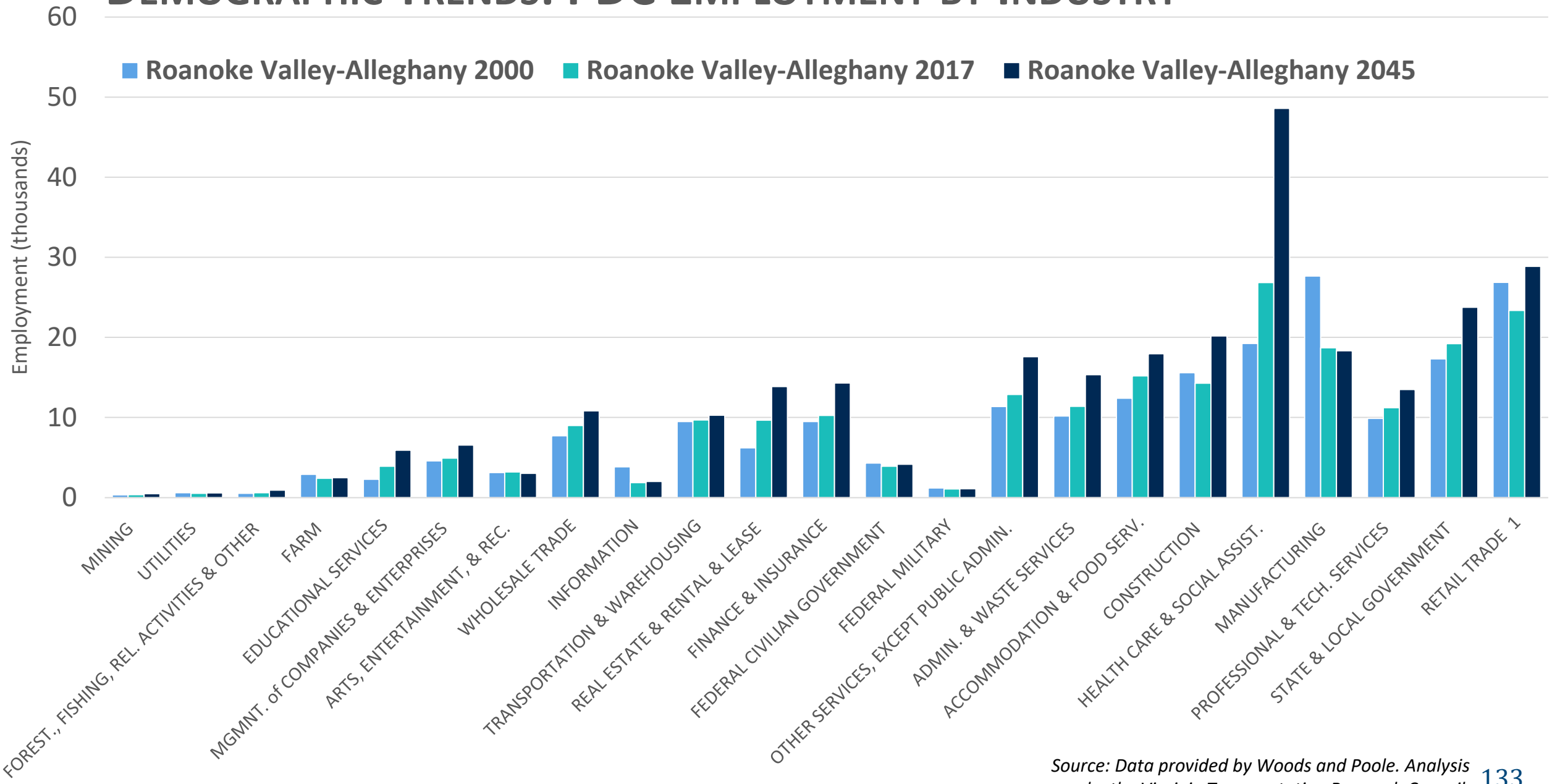
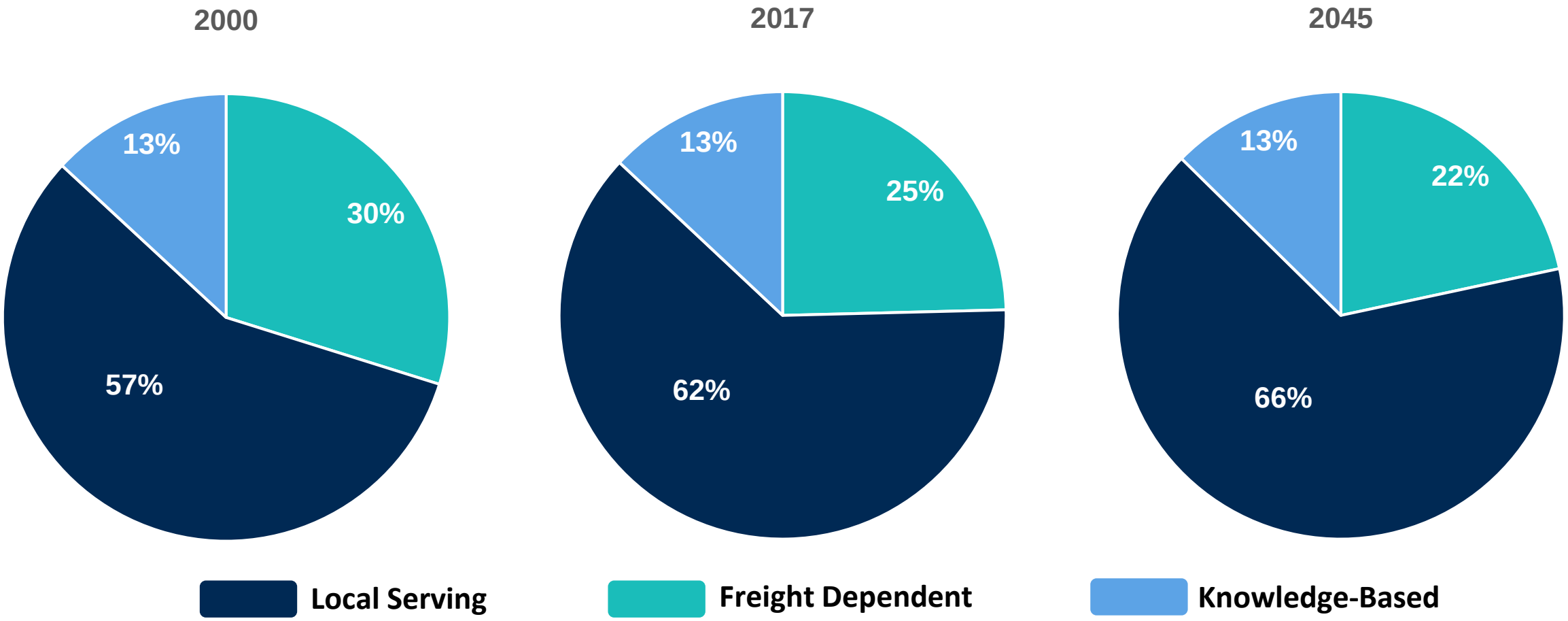
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

Demographic Trends: PDC Employment by Industry

Roanoke Valley-Alleghany RC



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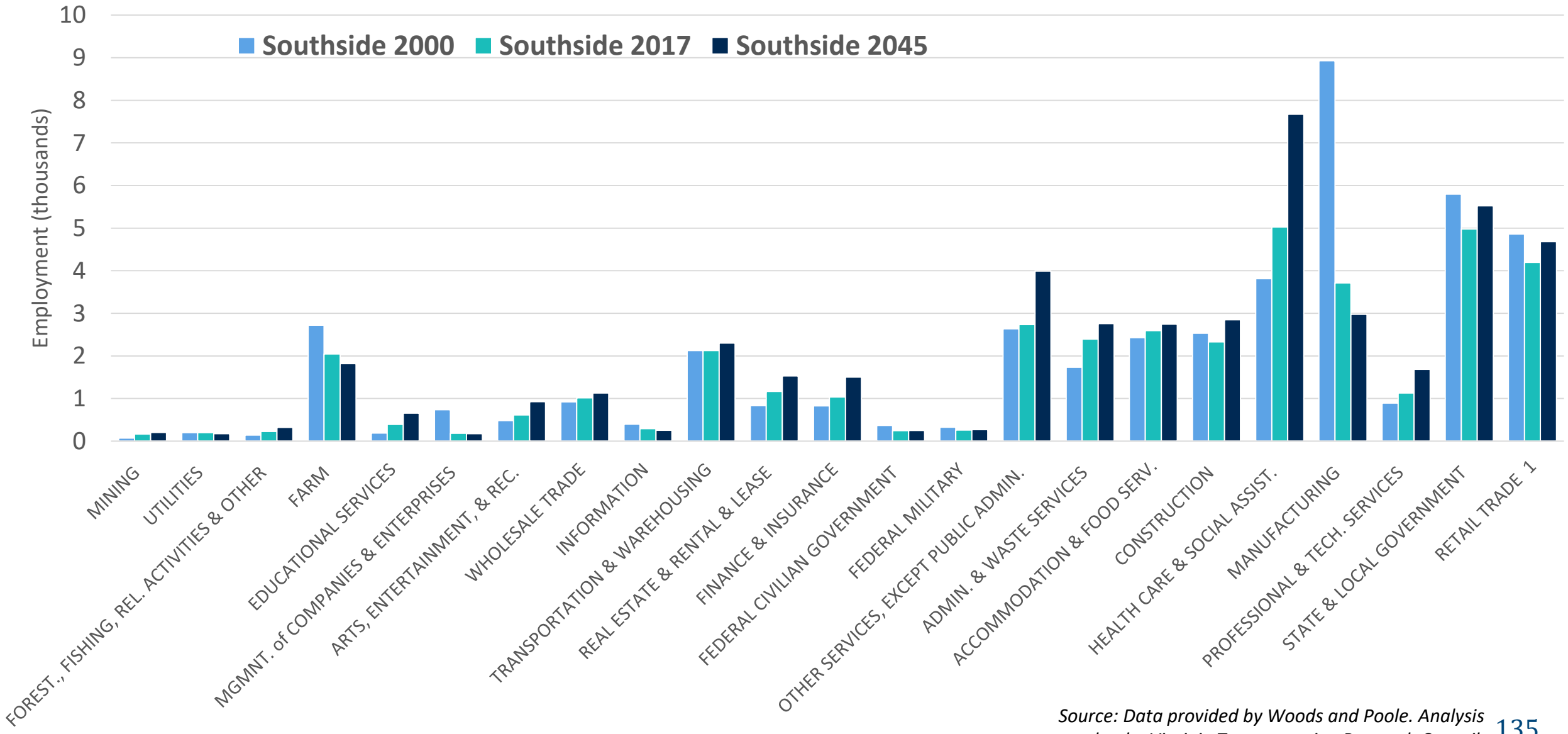
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



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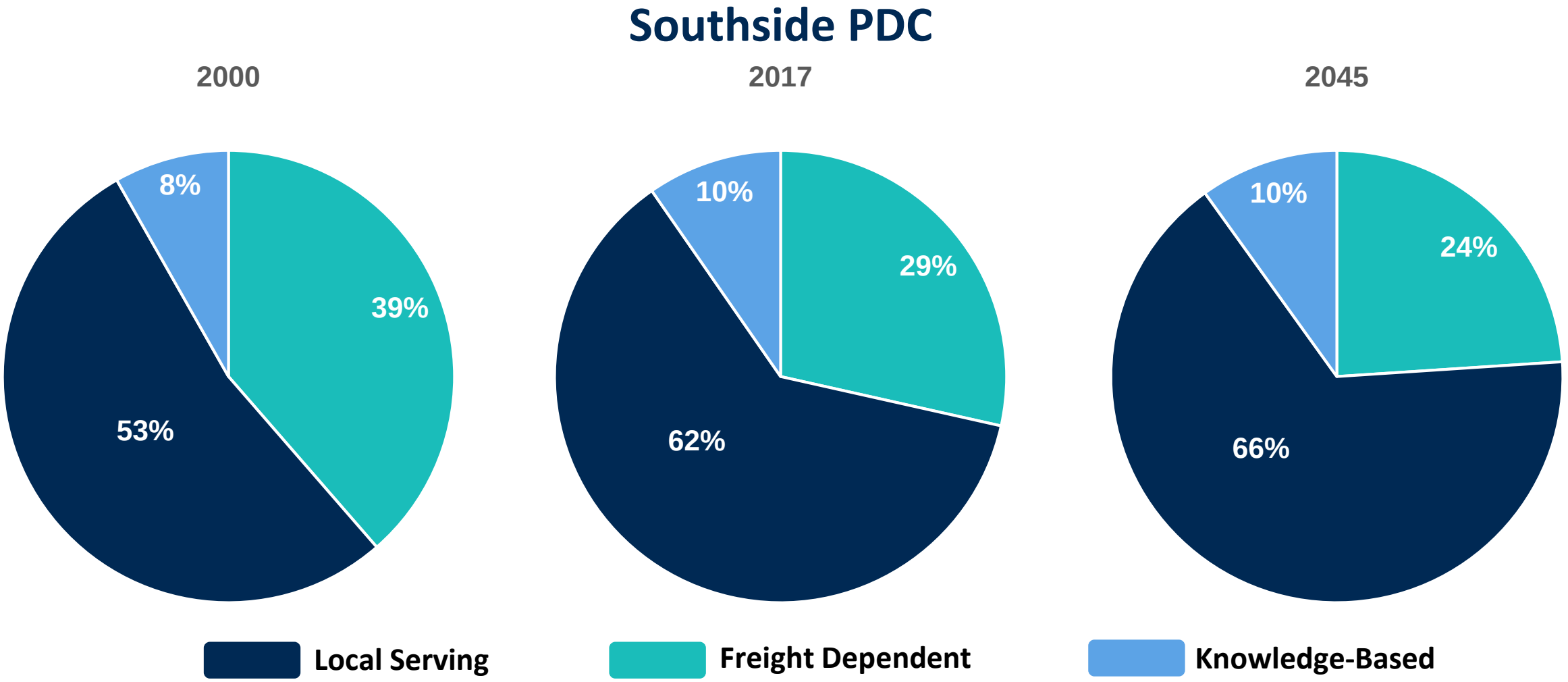
Demographic Trends: PDC Employment by Industry



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

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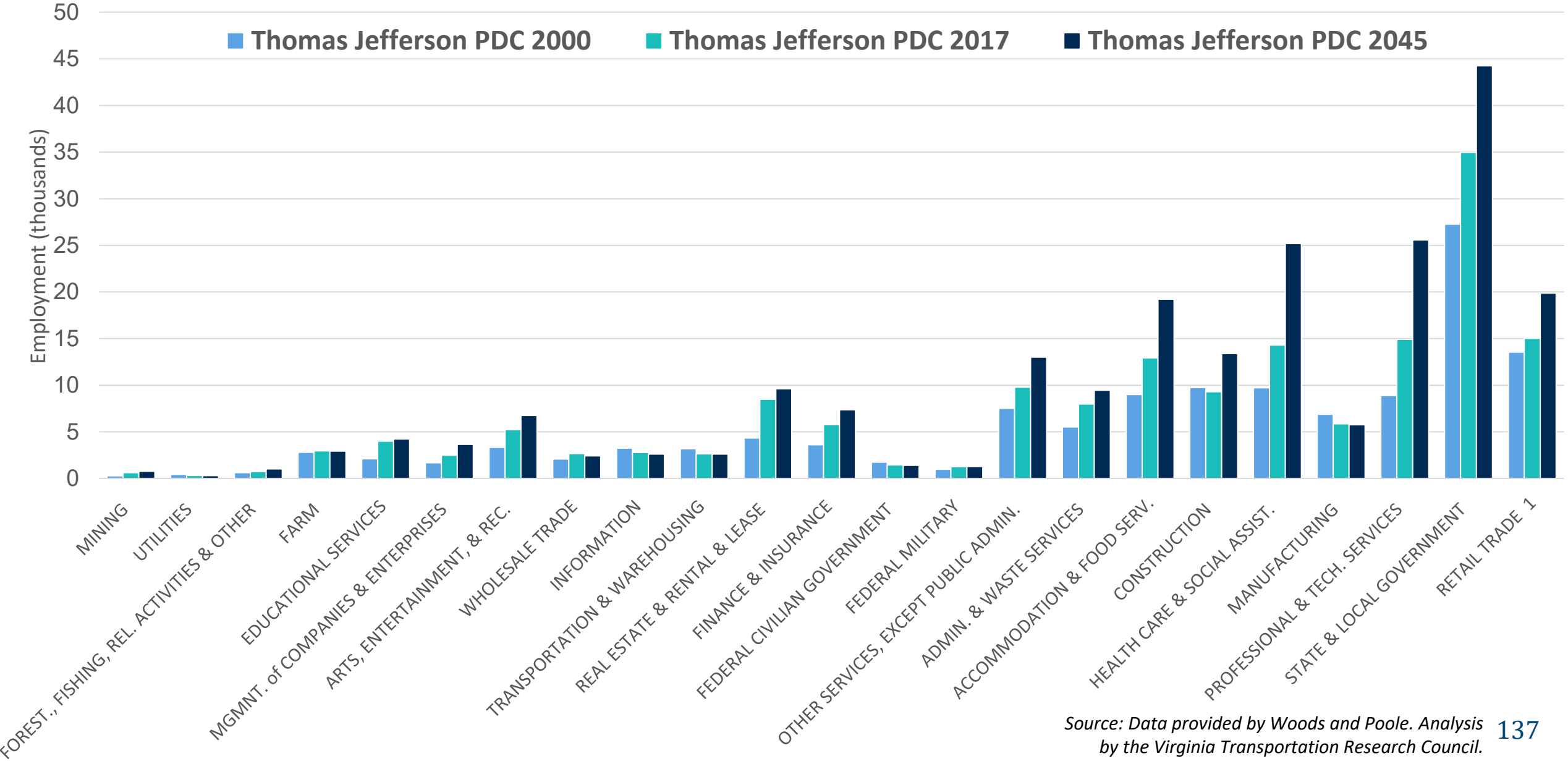
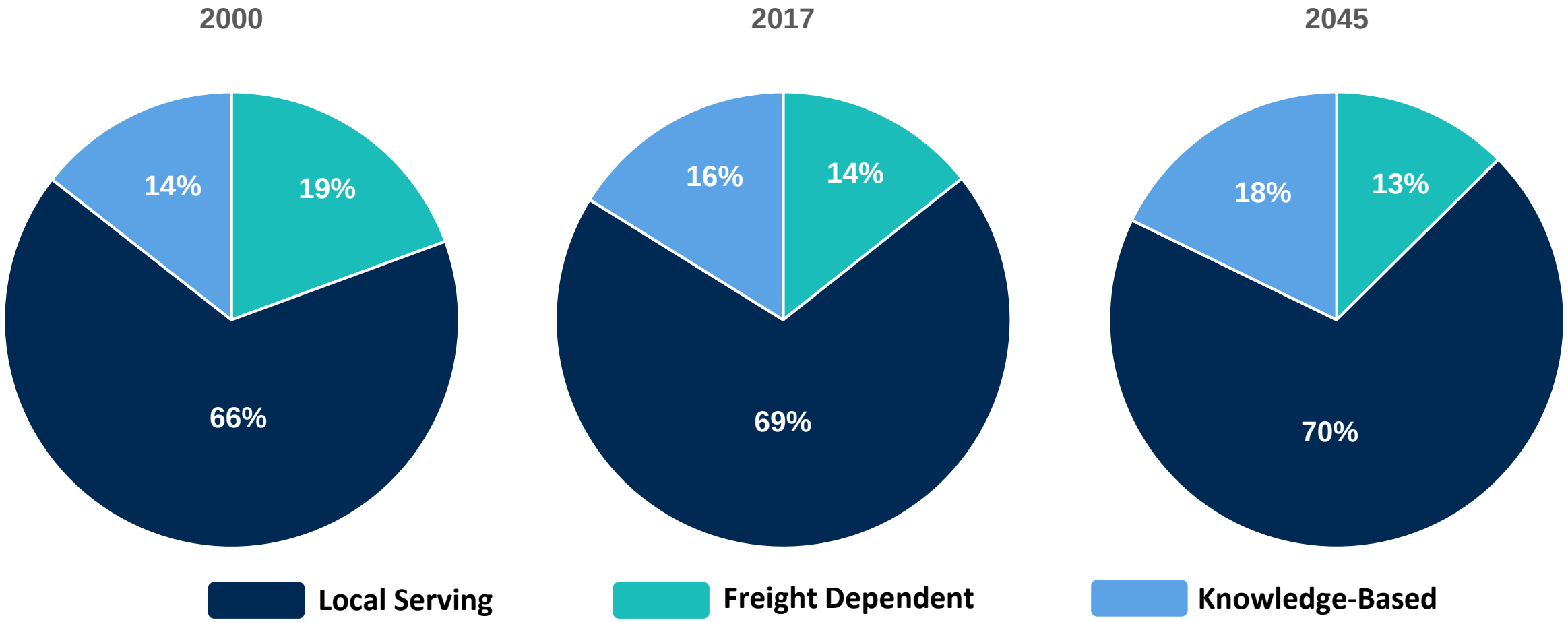
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

Demographic Trends: PDC Employment by Industry

Thomas Jefferson PDC



VTRANS | VIRGINIA'S TRANSPORTATION PLAN

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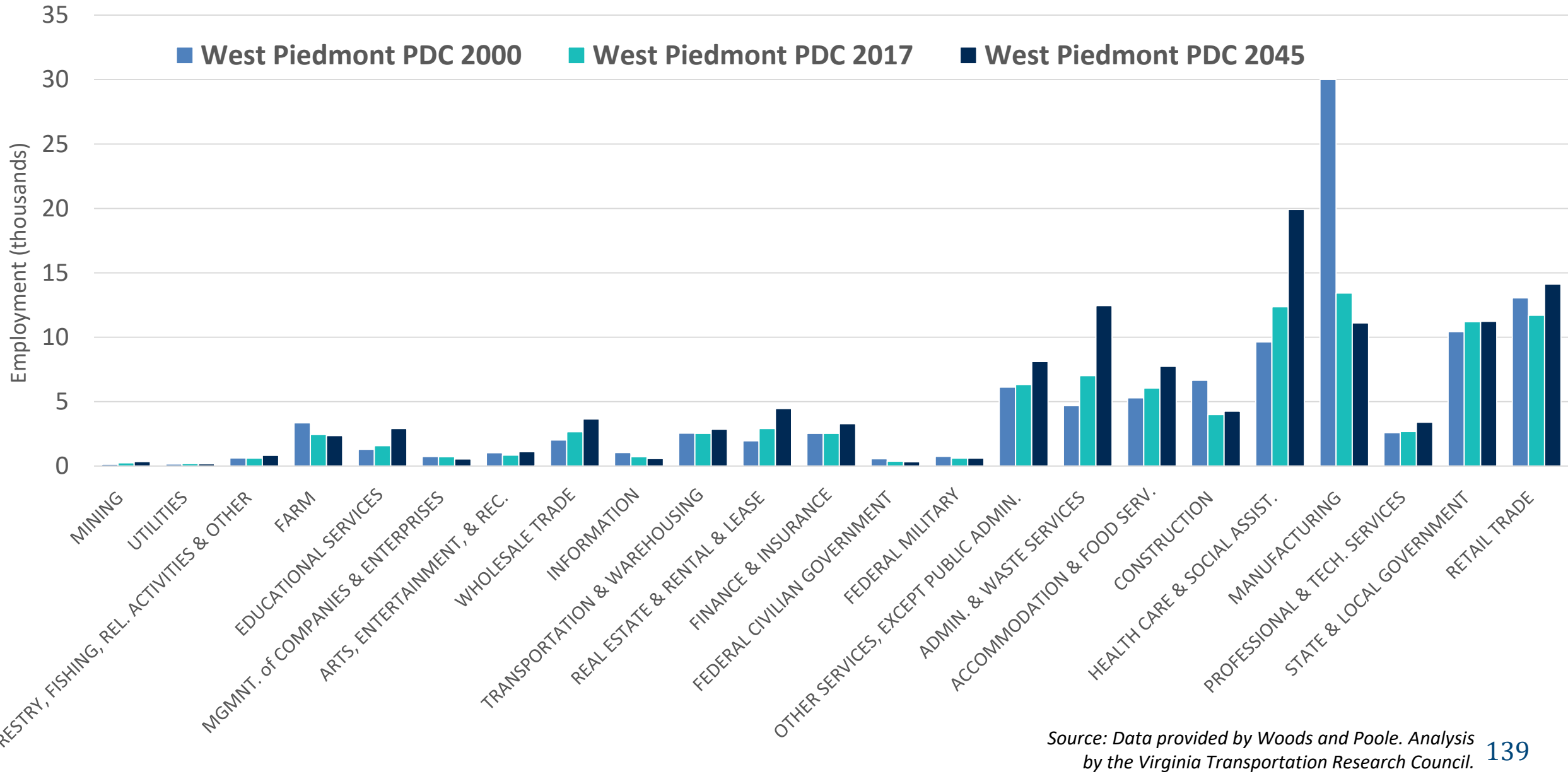
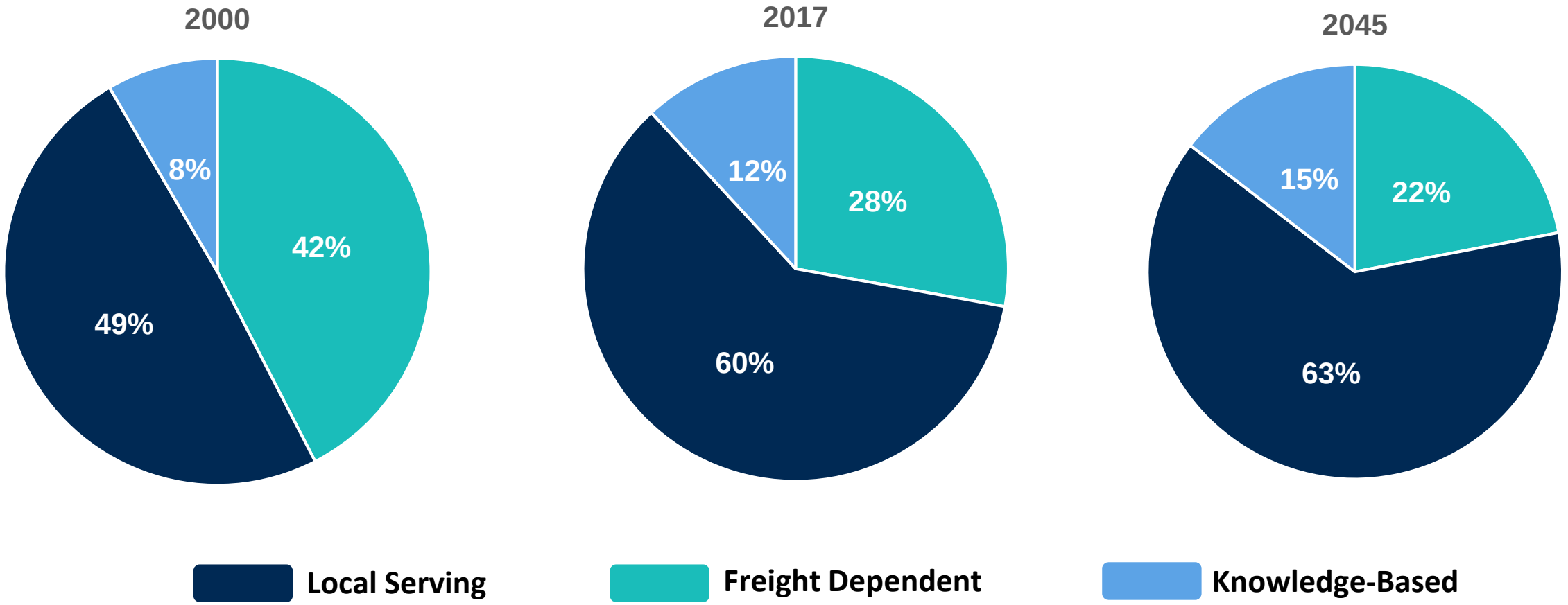
DEMOGRAPHIC TRENDS: PDC EMPLOYMENT BY INDUSTRY



Source: Data provided by Woods and Poole. Analysis by the Virginia Transportation Research Council.

Demographic Trends: PDC Employment by Industry

West Piedmont PDC



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