

# Considerations for 2045 Plan Study Area Boundary Development

## A. Background Information

As part of each Constrained Long-Range Multimodal Transportation Plan update, the plan’s study area boundary is re-evaluated. According to federal code, “the boundary shall encompass the entire existing urbanized area (as defined by the Bureau of the Census) plus the contiguous area expected to become urbanized within a 20-year forecast period”. At a minimum, the boundary must include the urbanized area, as defined by the US Census Bureau every 10 years. Then next urbanized area designation is expected in 2022. As such, the 2010 urbanized area boundary will still be used for the 2045 plan.

### 1. What is an Urbanized Urban Area?

An Urbanized Area is a geographic area designated by the Census Bureau, consisting of a central area and adjacent lands that together contain at least 50,000 people, generally with an overall population density of at least 1,000 people per square mile. Within the transportation planning community, Urbanized Areas are typically referred to as UZAs.

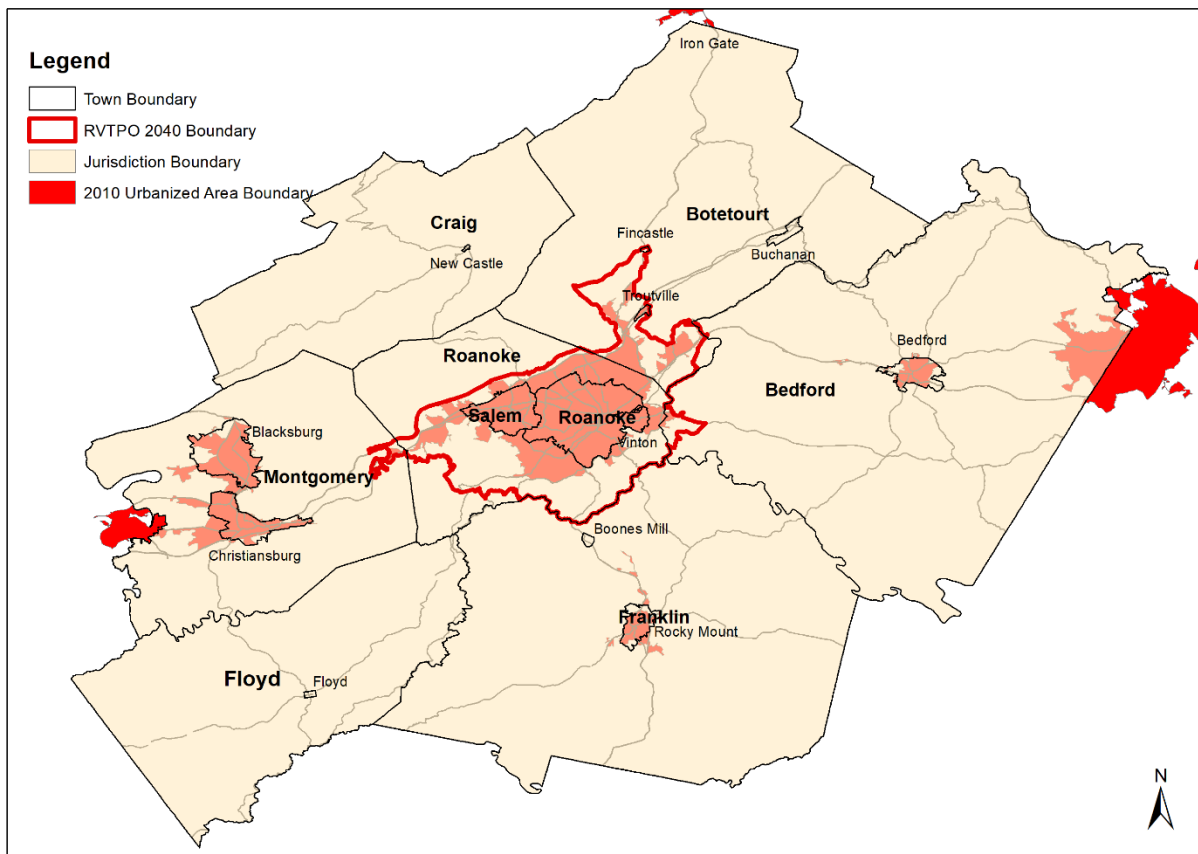


Figure 1: Urbanized Area Boundaries

## 2. Census Urbanized Area and MPO/TMA Designation.

The Census Bureau designates a new list of Urbanized Areas (UZAs) every 10 years, following the conclusion of each decennial census. The designation of UZAs by the U.S. Census Bureau has significant implications for the metropolitan planning process.

Most significantly, current Federal law requires that every UZA be represented by a metropolitan planning organization (MPO) which carries out the metropolitan transportation planning process for the UZA and surrounding areas.

Furthermore, UZAs with populations exceeding 200,000 are designated as Transportation Management Areas (TMAs) bringing additional responsibilities. The Roanoke UZA crossed this threshold and became a TMA as of the 2010 Census.

## 3. What is a Metropolitan Planning Area (MPA)?

### **Sec. 450.308 Metropolitan Planning Organization: Metropolitan Planning Area Boundaries**

- a. A Metropolitan Planning Area boundary shall, as a minimum, cover the UZA(s) and the contiguous area(s) likely to become urbanized within the next twenty-year forecast period as covered by the transportation plan. The boundary may encompass the entire metropolitan statistical area as defined by the Census Bureau.

*In the case of Roanoke, the MSA included the jurisdictions of Botetourt, Craig, Franklin, Roanoke, and Roanoke City and Salem City.*

- d. Approval of metropolitan planning area boundaries by the FHWA or the FTA is not required. However, metropolitan planning area boundary maps must be submitted to the FHWA and the FTA after their approval by the MPO and the Governor.

## 4. What is a Metropolitan Planning Organization (MPO)?

A Metropolitan Planning Organization (MPO) is the designated governmental body that is responsible for carrying out the federal metropolitan transportation planning process. An MPO must be designated for each urban area with a population of more than 50,000 people.

The Roanoke Valley Transportation Planning Organization is the MPO for the Roanoke Urbanized Area.

## 5. 2040 Population Projections

The Weldon Cooper Center for Public Service at the University of Virginia releases population projections for each locality and the most recent estimates were released in July 2019. Staff uses these estimates to calibrate TAZ populations within the TPO study area boundary. The chart below shows the numbers used in 2013 in the column “2040-OLD” to generate the 2040 CLRMTP. Population growth has slowed in many localities and the 2019 projections (2040-NEW) show that the Roanoke area’s TAZ population estimates for 2045 will need to be adjusted. The numbers for the 2040 plan overestimated the population growth.

### 2020-2040 Population Projections

Geography	Total Population					20-40 Growth
	2020	2030	2040-OLD	40-40 Change	2040-NEW	
Bedford County	79,241	84,604	95,943	-7,149	88,794	12%
Botetourt County	33,387	34,484	38,886	-3,756	35,130	5%
Franklin County	56,237	60,354	74,695	-11,069	63,626	13%
Roanoke County	94,145	97,249	109,373	-10,291	99,082	5%
Montgomery County	100,746	108,102	127,338	-13,392	113,946	13%
City of Roanoke	100,891	102,388	102,656	-66	102,590	2%
City of Salem	25,953	26,141	28,115	-2,113	26,002	0%

|Source: Weldon Cooper Center for Public Service, 2019

## 6. What is an Urban Development Area (UDA)/ Designated Growth Area (DGA)?

*Note: It is not required by the Federal/ State government to include UDAs/DGAs in the MPO Boundary. One of the options presented in the next section is to adjust the boundary of Study Area based on UDAs/DGAs.*

In 2007, the General Assembly in [§ 15.2-2223.1](#) established Urban Development Areas (UDAs) as a mechanism to assist with the coordination of transportation and land use planning, to encourage infill development, and to help reduce public costs related to the provision of services by focusing development in areas with existing infrastructure. In 2010, the legislation was amended to establish density and design criteria for UDAs and to improve the coordination between transportation and land use. In 2012, it was amended again to make the designation of UDAs voluntary across all localities and to include a more flexible definition. A UDA is defined as:

1. Areas designated by a locality that may be sufficient to meet projected residential and commercial growth in the locality for an ensuing period of at least 10 but not more than 20 years;
2. Where an urban development area in a county includes planned or existing rail transit, the planning horizon may be for an ensuing period of at least 10 but not more than 40 years;
3. Areas that may be appropriate for development at a density on the developable acreage of at least four single-family residences, six townhouses, or 12 apartments, condominium units or cooperative units per acres and an authorized floor area ratio of at least 0.4 per acre for

- commercial development, or any proportional combination thereof, or any other combination or arrangement that is adopted by a locality in meeting the intent of the UDA code section; and,
4. Areas that incorporate principles of traditional neighborhood design (TND).

Designated UDAs should also have boundaries which are identified in the locality's comprehensive plan and are shown on future land use maps contained in such plans. The code also states that any incentives, financial or other, for development of these UDAs should be described in such plans as well.

## **7. Impact of a boundary change for the Roanoke Valley Transportation Planning Organization Study Area.**

- **CLRMTP** - Projects in the Constrained Long-Range Multimodal Transportation Plan (CLRMTP) will be within the adopted RVTPO Study Area Boundary.
- **TIP** - Any regional regionally significant project or projects receiving VDOT administered funding or federal transit funding must be included in the Transportation Improvement Program (TIP) if they are located within the boundary.
- **UPWP** - The annual RVTPO Unified Planning Work Program will reflect projects within the boundary area.
- **Other Funding** - Within the boundary, projects will be eligible for Surface Transportation Block Grant (STBG)/Transportation Alternatives (TA) funding through the RVTPO.

## **B. 2045 LRTP Study Area Boundary Update Options**

*Note: The 2020 Census results will not be available in time to use for the 2045 CLRMTP.*

### **1. Maintain 2040 Study Area Boundary**

#### ***“Status Quo” Option***

##### Implications:

Keep the existing boundary but adjust TAZ data to reflect new population projections and recent employment data.

Same geographic area from 2040 plan included in 2045 planning efforts, eligibility for STBG/TA funding, required RVTPO oversight of investments, ex. inclusion in TIP, CLRMTP, SMART SCALE/TA endorsements, etc.

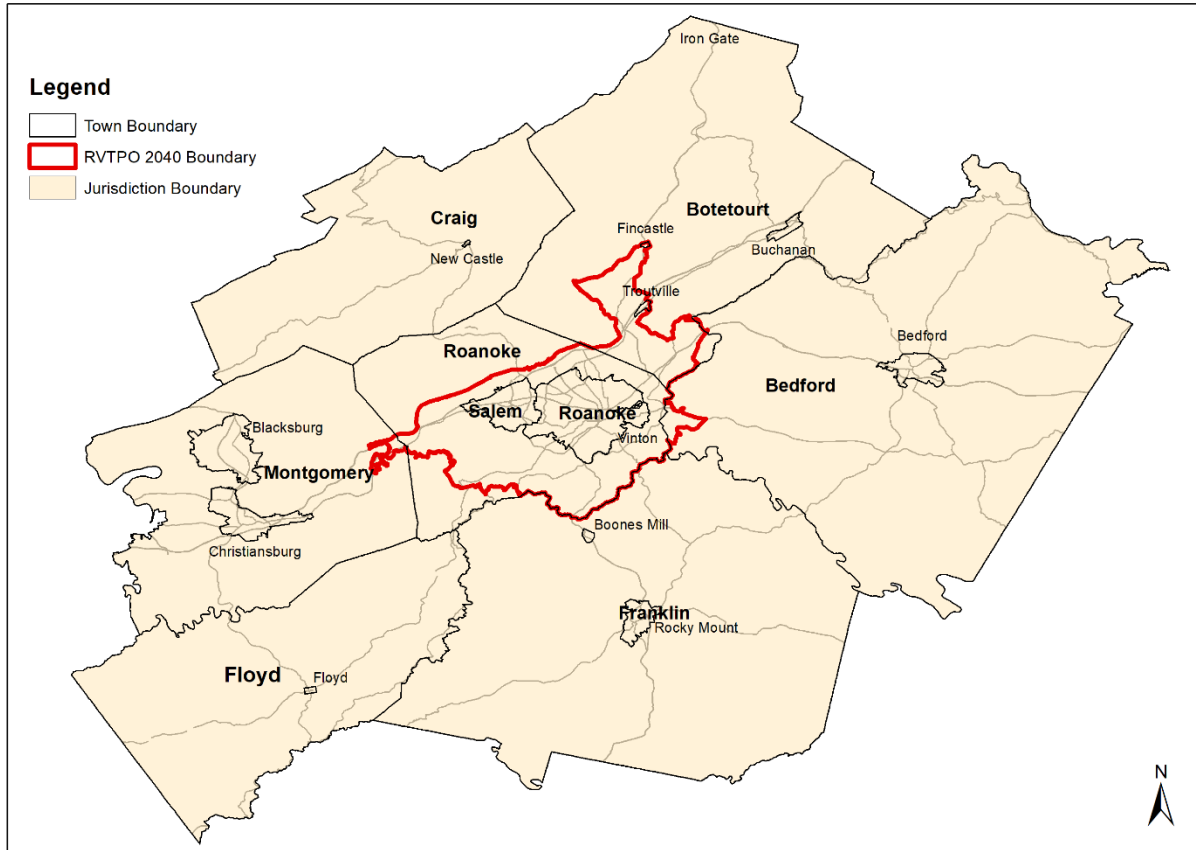


Figure 2: RVTPO 2040 Study Area Boundary

2. Adjust boundary based on population / employment changes from local staff knowledge using same methodology from previous long-range plans.

***“Minor Adjustments” Option***

Staff would use 2010 Census data to develop TAZ data for new areas added. Other TAZ data would be adjusted as needed to reflect population projections and recent employment data. (Option to delete areas if desired.)

Implications:

A new/similar geographic area to 2040 boundary developed for planning efforts, eligibility for STBG/TA funding, required RVTPO oversight of investments, ex. inclusion in TIP, CLRMTP, SMART SCALE/TA endorsements, etc.

3. Adjust boundary based on urban development areas (UDAs)/ designated growth areas (DGAs)

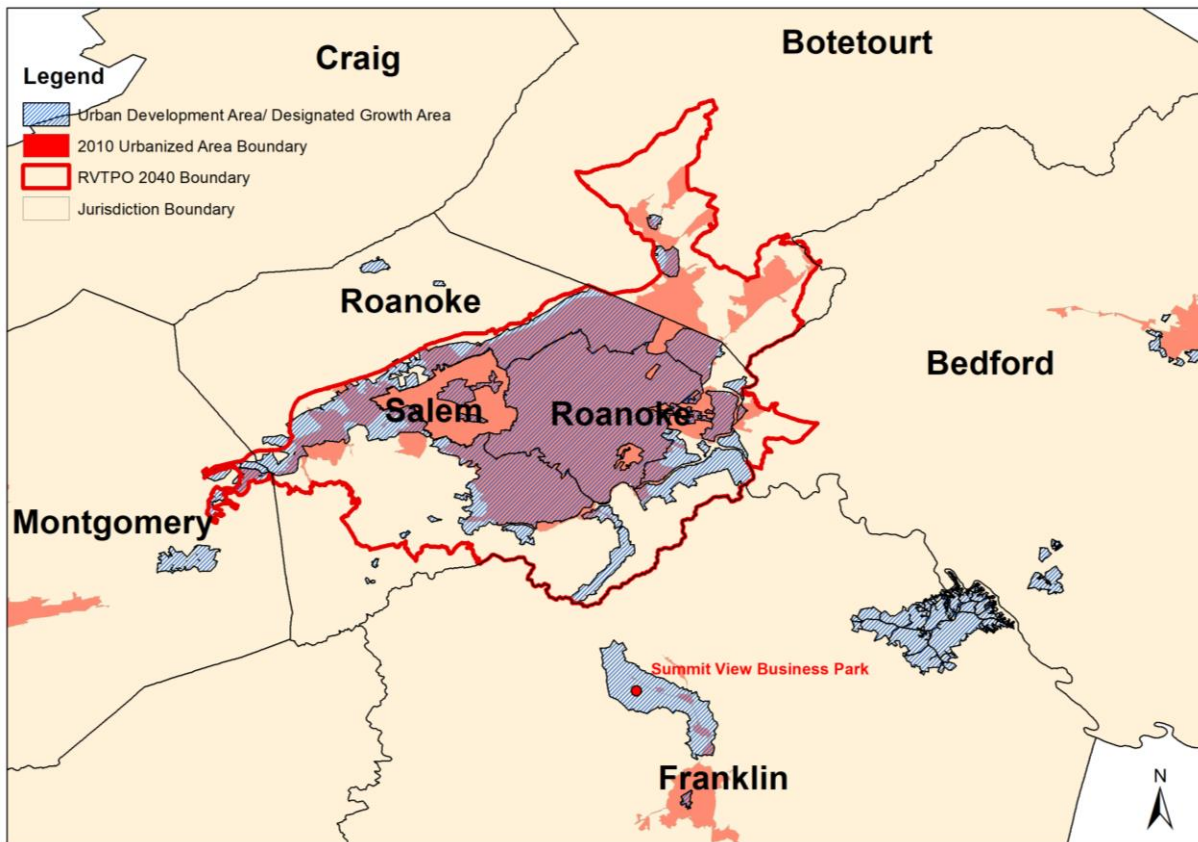
***“Focused Growth” Option***

Adjust population/employment growth projections to align with UDAs/DGAs.

Implications:

Local land development practices are expected to target growth to their adopted UDAs/DGAs and will result in a smaller urbanized area than projected originally for 2040.

The 2045 boundary would be smaller than the 2040 boundary with a more realistic perspective on where growth is desired and anticipated. Fewer areas included in RVTPO oversight for CLRMTP, TIP, and grant funding program endorsements. SMART SCALE endorsements for these areas would shift to the locality or Regional Commission rather than the RVTPO. Fewer areas eligible for STBG & RVTPO TA funding.



*Figure 3: Urban Development Areas/ Designated Growth Areas*

**Add-On Option - One of the above three options plus adding some portion of Franklin County.**

Consideration of contributing growth from Franklin County.

Franklin County has requested that the RVTPO consider adding Franklin County to the study area.

Implications:

RVTPO believes the Roanoke urbanized area may extend into Franklin County by 2045.

- Would not require Franklin County to be a voting member of the RVTPO, though the Policy Board could choose to add Franklin County on the Board, if desired.

- Franklin County areas within the study boundary would be eligible for RVTPO STBG/TA funds, RVTPO endorsement of SMART SCALE projects, inclusion of projects in TIP/CLRMTP.
- Inclusion in all TPO planning efforts – CLRMTP, CMP Plan, etc.

## C. Past Study Area Boundary Updates

### 2040 Study Area Boundary

After each decennial Census, the US Census Bureau re-defines urbanized areas based on new guidelines and changes in population densities. In 2013, the Census Bureau released a new boundary for the Roanoke Urbanized Area.

This area added portions of Montgomery County to the Roanoke Urbanized Area, thus requiring Montgomery County to be a part of the Roanoke Valley TPO planning efforts.

## D. Federal Regulations and Guidelines

### § 450.312 Metropolitan Planning Area boundaries.

LII → U.S. Code → Title 23. HIGHWAYS → Chapter 1. FEDERAL-AID HIGHWAYS → Section 134. Metropolitan transportation planning

(a) The boundaries of a metropolitan planning area (MPA) shall be determined by agreement between the MPO and the [Governor](#).

(1) At a minimum, the MPA boundaries shall encompass the entire existing urbanized area (as defined by the Bureau of the Census) plus the contiguous area expected to become urbanized within a 20-year forecast period for the [metropolitan transportation plan](#).

(2) The MPA boundaries may be further expanded to encompass the entire metropolitan statistical area or **combined statistical area**, as defined by the Office of Management and Budget.

(b) An MPO that serves an urbanized area designated as a [nonattainment area](#) for ozone or carbon monoxide under the [Clean Air Act \(42 U.S.C. 7401 et seq.\)](#) as of August 10, 2005, shall retain the MPA boundary that existed on August 10, 2005. The MPA boundaries for such MPOs may only be adjusted by agreement of the [Governor](#) and the affected MPO in accordance with the redesignation procedures described in [§ 450.310\(h\)](#). The MPA boundary for an MPO that serves an urbanized area designated as a [nonattainment area](#) for ozone or carbon monoxide under the [Clean Air Act \(42 U.S.C. 7401 et seq.\)](#) after August 10, 2005, may be established to coincide with the designated boundaries of the ozone and/or carbon monoxide [nonattainment area](#), in accordance with the requirements in [§ 450.310\(b\)](#).

(c) An MPA boundary may encompass more than one urbanized area.

(d) MPA boundaries may be established to coincide with the geography of regional economic development and growth forecasting areas.

(e) Identification of new urbanized areas within an existing metropolitan planning area by the Bureau of the Census shall not require redesignation of the existing MPO.

(f) Where the boundaries of the urbanized area or MPA extend across two or more States, the [Governors](#) with responsibility for a portion of the multistate area, the appropriate MPO(s), and the public transportation operator(s) are strongly encouraged to coordinate transportation planning for the entire multistate area.

(g) The MPA boundaries shall not overlap with each other.

(h) Where part of an urbanized area served by one MPO extends into an adjacent MPA, the MPOs shall, at a minimum, establish written agreements that clearly identify areas of [coordination](#) and the division of transportation planning responsibilities among and between the MPOs. Alternatively, the MPOs may adjust their existing boundaries so that the entire urbanized area lies within only one MPA. Boundary adjustments that change the composition of the MPO may require redesignation of one or more such MPOs.

(i) The MPO (in [cooperation](#) with the [State](#) and public transportation operator(s)) shall review the MPA boundaries after each Census to determine if existing MPA boundaries meet the minimum statutory requirements for new and [updated](#) urbanized area(s), and shall adjust them as necessary. As appropriate, additional adjustments should be made to reflect the most comprehensive boundary to foster an effective planning process that ensures connectivity between modes, improves access to modal systems, and promotes efficient overall transportation investment strategies.

(j) Following MPA boundary approval by the MPO and the [Governor](#), the MPA boundary descriptions shall be provided for informational purposes to the FHWA and the FTA. The MPA boundary descriptions shall be submitted either as a geo-spatial database or described in sufficient detail to enable the boundaries to be accurately delineated on a map.

[[82 FR 56543](#), Nov. 29, 2017]

## Urban Area Criteria for the 2010 Census

Federal Register ([75 FR 52174](#)).

The federal rules include a provision for “inclusion of noncontiguous territory via hops and jumps to the urbanized area.

### Jump

- A “jump” is the distance across the territory with low population density separating noncontiguous qualifying territory from the main body of an area.
- For the 2010 Census, the Census Bureau increased the maximum jump distance from 1.5 miles to 2.5 miles.

### Hops

- Non-contiguous areas will be added to the UA if they are separated by less than half a mile of low-density land.
- Multiple hops may be made along a single road connection