



# EXECUTIVE SUMMARY

## *What is Plan 2035?*

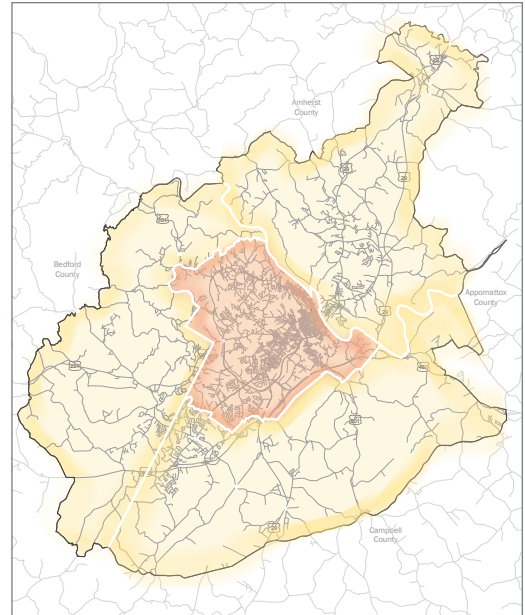
Plan 2035 is the long-range transportation plan (LRTP) for the City of Lynchburg, the Town of Amherst and surrounding suburban portions of Amherst, Campbell and Bedford Counties.

Updated every five years, the LRTP is a document intended to guide the Central Virginia Metropolitan Planning Organization (MPO) in creating a more efficient, responsive, and environmentally sensitive transportation system over the next twenty to twenty-five years. In order to be eligible for federal funds, proposed transportation improvements must be included in the LRTP.

## Goals

The CVMPO, in partnership with member localities and agencies, will plan and develop a coordinated strategy for multi-modal transportation investments and local land use policies that optimizes regional mobility and accessibility, and that supports local communities in achieving their goals for economic vitality, environmental stewardship, and quality of life. Through the implementation of Plan 2035 and related local and regional plans, the members of the CVMPO will seek to advance the following goals:

1. **Make it Safe:** Promote transportation safety and security for motorized and non-motorized travelers.
2. **Make it Function:** Ensure that the existing transportation system is maintained.
3. **Make it Flow:** Improve mobility and connectivity for people and freight, across all travel modes.
4. **Make it Accessible:** Promote equal access to all modes of transportation for people of all ages and abilities.
5. **Make it Efficient:** Maximize transportation operations and efficiency of key corridors such as Route 29 in the region and between regions. The Route 29 corridor is a vital economic artery for the region and the state and must be managed and developed accordingly.
6. **Promote Vitality:** Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
7. **Sustain Quality:** Support and enhance environmental resilience, energy conservation, and community quality of life.
8. **Coordinate Investments:** Ensure consistency with local and state plans and goals for land use, environmental preservation, and economic development.
9. **Balance Priorities:** Balance cross-jurisdictional transportation needs and concerns.
10. **Expand Resources:** Identify and develop new sources of transportation funding.



*Plan 2035 Study Area*

## Funding Constraints

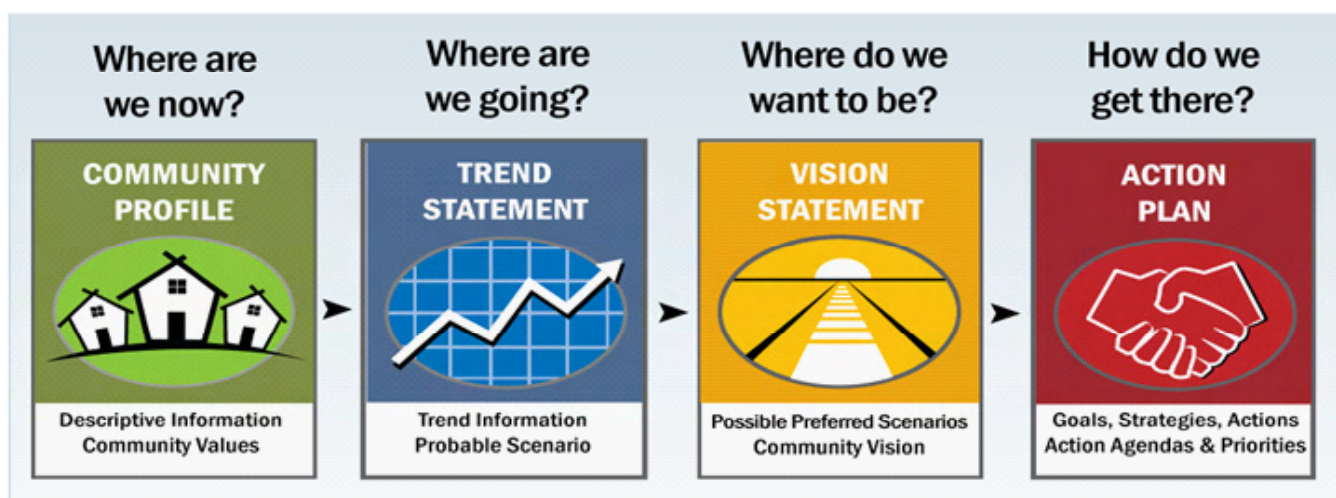
The main source of federal and state transportation funds is gas tax revenues. During the recent recession, people have been driving less, and taxes have not increased to keep pace with the cost of maintaining and building transportation infrastructure. As the economy recovers over the coming years, the amount of vehicle miles traveled on the region's roadways is expected to increase. However, the effects of more fuel-efficient vehicles and continued low tax rates are likely to dampen the relative increase in gas tax revenues.

The upshot of these combined factors is that the need for funding to maintain and expand all types of transportation facilities will continue to grow, but the traditional funding sources will not keep pace. Given the anticipated funding shortfalls, Plan 2035 includes considerations for both transportation and land use policies and strategies aimed at optimizing the use of the existing transportation network and reducing the need to add costly infrastructure in the future.

Toward this end, Plan 2035 featured a scenario planning process, in which the MPO and local stakeholders examined a variety of land use and transportation strategies to improve mobility and accessibility without relying solely upon expanded highway infrastructure. The resulting "Alternative Perspectives" vision map and policy considerations encourage the development of new land use policies that could help to maximize the efficiency of the existing system while also advancing local economic, environmental and community development goals.

## The Scenario Planning Process

Originally developed for military and corporate strategic planning efforts, scenario planning techniques and tools have been adapted for the purpose of regional transportation planning by USDOT and a number of leading MPOs over the past 20 years. The approach is typically organized around the four basic questions shown below.





## Where Are We Now?

### Community Vision and Values

The first step in the scenario planning process was to elicit and articulate widely held community values in the form of guiding principles. The principles served as a framework for identifying evaluation criteria that were applied to future development scenarios later in the process.

### Guiding Principles

*In the year 2035, Central Virginia will be a place where:*

- Our people enjoy a **strong sense of community**.
- Our businesses **thrive and prosper**.
- Our **natural beauty** flourishes.
- Our **region is accessible** to businesses and visitors from around the world.
- Our **communities are accessible** to people of all ages and abilities.

### Existing Transportation Network

Major transportation infrastructure in the region includes several major regional arterial roadways including US Routes 29, 501, and 460; growing urban and rural transit services; newly expanded passenger rail service; a rich bed of freight rail service; a regional airport and numerous private passenger and cargo air services; and a strong and growing network of trail facilities.

### Existing Community Development Patterns

To assess existing land use patterns, the planning team created a computer-based inventory of about a dozen existing community elements that collectively represent the gamut of typical places within the Central Virginia region. By arranging the elements in different patterns, the team worked with the community to create and evaluate alternative regional development scenarios that could support a variety of transportation systems, from automobile-oriented places to transit-oriented communities.

#### URBAN COMMUNITY ELEMENT



*Downtown Mixed Use Community Element*

#### Typical travel modes



The urban core of Lynchburg reflects the highest intensity and mix of all community elements within the region. It includes the central business district core and surrounding high-density residential neighborhoods. The key characteristics of these urban elements include a well connected street network, a mix of housing choices, and opportunities for walking, biking, shopping and recreation all in close proximity. The densities of these places support transit service and structured parking.



*Suburban Retail Community Element*

#### Typical travel modes



Typical post-1950s suburban settlement patterns are designed for automobile access, and do not usually encourage walking. They are characterized by single uses, lower densities, and limited road connectivity. Big box, regional malls or strip commercial highways are typical of employment and retail areas. Occasionally residential neighborhoods are found in close proximity to commercial centers, but connections are limited, and reliance is still on the automobile as the primary mode of transport. Housing types are typically single family detached.



## Where Are We Going?

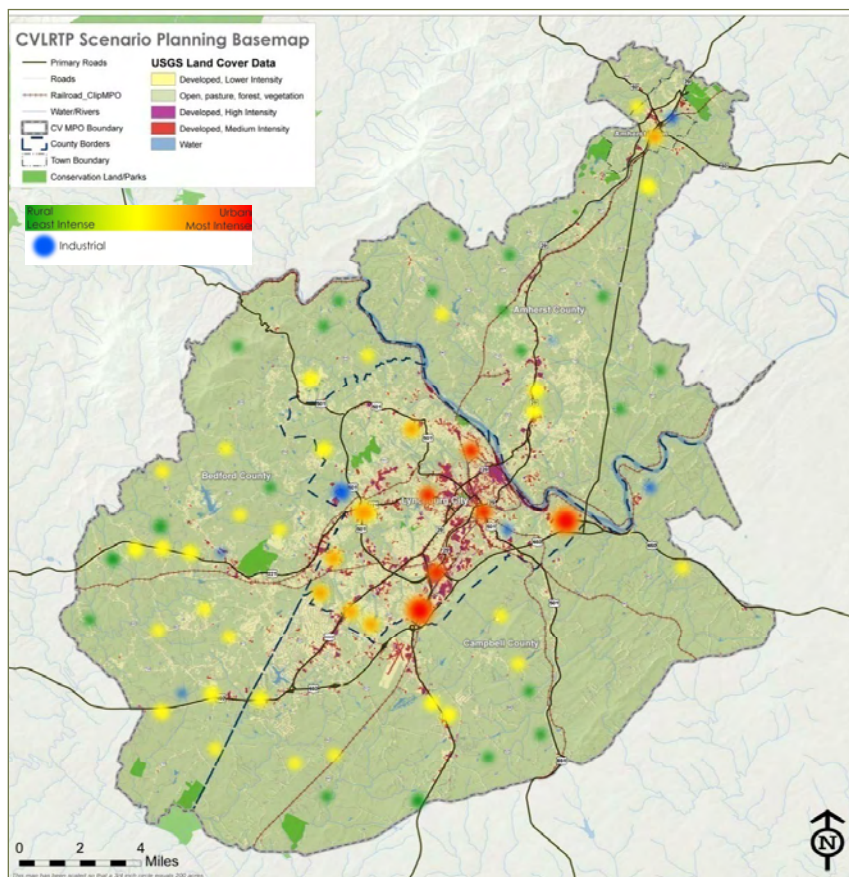
### Demographic and Economic Trends

The Lynchburg region has experienced steady growth over the past years and is expected to continue this trend into the future. By the year 2035, the population is expected to increase by approximately 33,000 residents, with the number of households increasing by 13,000. This would bring the total number of people to about 174,000, living in about 72,000 housing units. About 12,000 new jobs are anticipated to be created within the region during the same time frame.

### “Trend” Scenario

At the outset of the planning process, the study group developed a “Trend Scenario”, which represents potential future development patterns given the continuation of existing policies and past trends.

Trend Scenario



The Trend Scenario map shows a dispersed pattern of growth distributed fairly evenly across the region, with residential uses situated fairly far away from jobs and services.

Large-lot subdivisions along secondary roads dot the rural landscape in many places. Most new development consists of automobile-oriented residential or commercial centers, although new markets have begun to open up for walkable mixed-use communities such as Wyndhurst and urban infill and redevelopment projects.

Large-footprint development patterns perpetuate a reliance on the automobile because most origins and destinations are too far apart to be reached by walking or cycling, and because places that are not accessible to pedestrians are not good candidates for transit service.

The increased vehicle traffic generated by every new subdivision (a typical household generates about nine trips per day) has a cumulative impact on environmental conditions such as greenhouse gas emissions.

## Where Do We Want to Be?

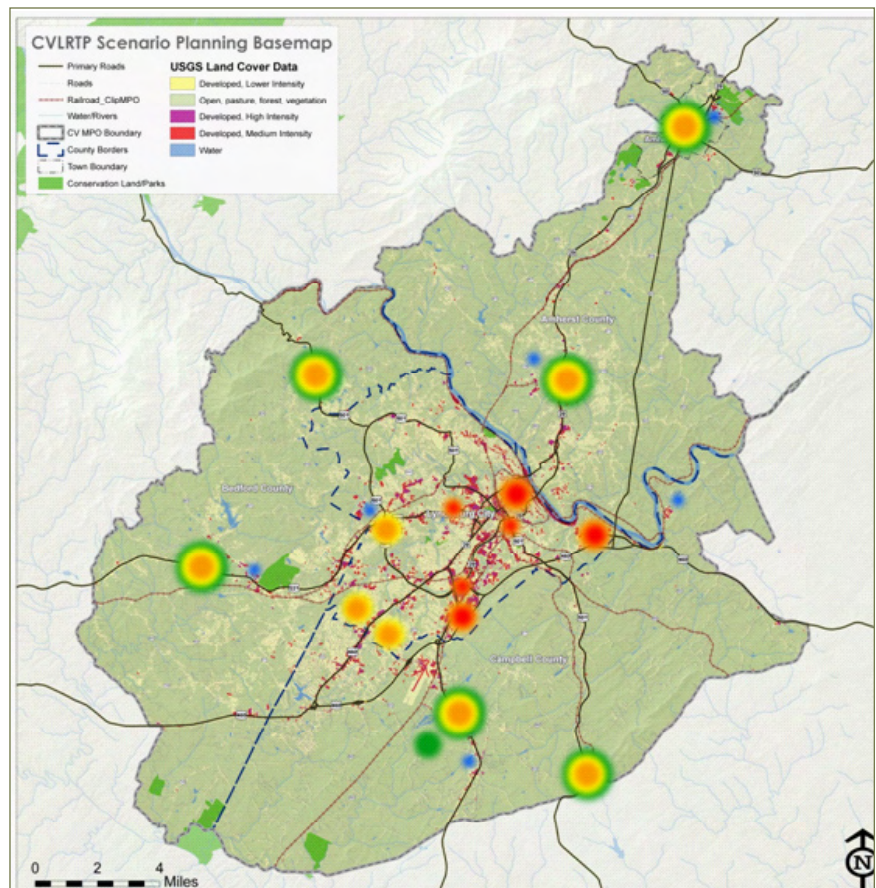
Through a series of community meetings, participants helped the planning team to shape and evaluate various alternative land use and transportation scenarios. They created a “preferred scenario” that featured the best elements of all the options, dubbed the “Alternative Perspective” scenario.

### “Alternative Perspective” Scenario

The Alternative Perspective Scenario illustrates a way in which the region could grow that would optimize the existing transportation system and achieve community goals for quality of life. This scenario is not a land use plan, but rather a guide to help localities shape their own plans in ways that support a more efficient land use pattern and a multi-modal transportation network.

In this scenario, 40% of new households and jobs are in the City, while others are focused mostly within new and existing village centers. Density of new development is moderate, with a regional average of 4.15 households per acre (more in cities, less in rural areas). 43% of new housing is in multifamily units. Many new jobs and services are located near residential development, with opportunities for pedestrian, bicycle and transit connections. Design supports multimodal mobility and is largely pedestrian focused. The overall development pattern provides for the ability to serve local communities with transit.

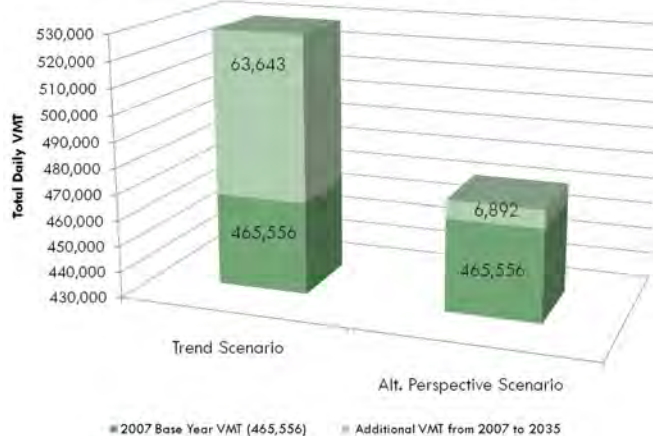
Alternative Perspectives Scenario



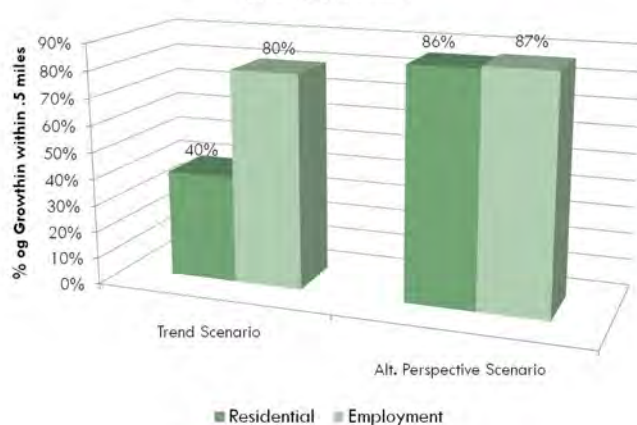
## Comparing Scenario Outcomes

As shown in the charts below, the compact development pattern of the Alternative Perspective concept results in a dramatic decrease in additional daily vehicle miles travelled (VMT) throughout the region. By shortening some vehicle trips (primarily non-work trips, which constitute the majority of regional travel purposes) and by allowing some vehicle trips to shift to pedestrian, bicycle or transit modes, the Alternative Perspective pattern could reduce future congestion on regional roadways, lessen the environmental impacts of development and vehicle travel, and provide increased mobility and accessibility for all local residents, regardless of age or ability.

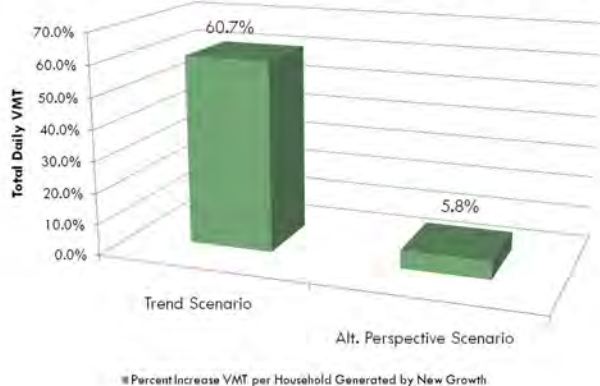
**Daily Vehicle Miles Traveled Compared to 2007 Base Year**



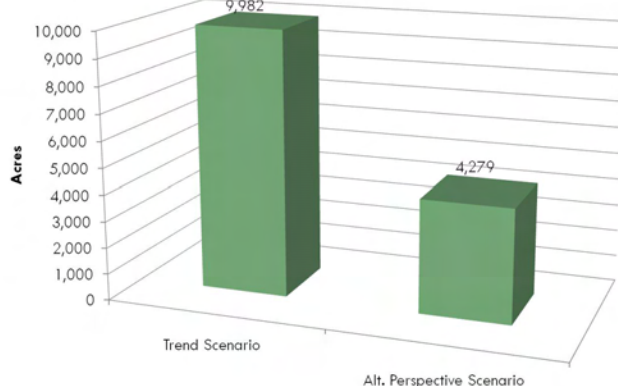
**Proximity to Major Roadways**  
(29, 60, 221, 460, 501)



**Percent Increase VMT per Household Generated by New Growth**



**Total Acreage Required**







## How Do We Get There?

### Transportation Investments

The following maps illustrate proposed transportation investments from both the “fiscally constrained” and “unconstrained” plan elements. In accordance with federal planning requirements, the fiscally constrained plan is limited to the projects that can be done without exceeding the amount of estimated future revenues. The Unconstrained list includes additional projects that would be considered for (but not guaranteed) funding should additional resources be found.

Key investments in the fiscally constrained plan include a mix of corridor improvement projects to enhance efficiency and multimodal mobility. There is only one new major roadway facility expansion project under consideration: the southern section of US 29. This is listed as one project although it will have multiple components, including both easterly and westerly alignments to serve regional and inter-regional traffic demand. This project is strategically important to the region because it provides improved intra- and interstate access for both goods and people. It also provides relief to a congested section of US 29 in northern Campbell County.

The remainder of the financially constrained plan is focused on optimizing the performance and safety of existing facilities and developing land use policies that can help to preserve the capacity of the existing system by reducing Vehicle Miles Traveled (VMT), creating markets for transit, and providing a complete street network that allows for more bicycling and walking.

The detailed traffic modeling analyses and transportation project recommendations in Plan2035 are based upon the “Trend Scenario” of future development that assumes the implementation of current local land use plans. However, the “Alternative Perspective” scenario provides a basis for policy considerations that promote more efficient land use patterns and that would support more cost-effective, multi-modal transportation networks. During the coming five years, the CVMPO will encourage local governments to consider the “Alternative Perspective” concepts as part of their community planning and development efforts. The next transportation plan update may be based upon adopted plans that more closely reflect this scenario.

#### Types of Transportation Investments

- **Roadway Capacity Expansion:** Adding and/or widening roadway lanes on congested corridors in order to accommodate increased numbers of vehicles.
- **New Roadway:** Adding roadway connections that reduce congestion on heavily traveled corridors and improve the efficiency of the regional network.
- **Access Management and Safety:** Reducing the risk of crashes and improving traffic flow along major corridors with strategies such as consolidating multiple driveways, reducing the number of crossings, increasing the space between intersections, and coordinating traffic signals.
- **Multimodal Capacity Expansion:** Adding facilities and services that encourage more walking, cycling, and transit use. This provides more travel choices for area residents and reduces the need to drive in congested urban areas.
- **Bridge/Intersection Reconstruction:** Repairing and/or upgrading bridges and intersections to ensure safe passage for all types of vehicles.
- **Roadway Reconstruction:** Improving roadway resiliency and safety by making improvements such as reducing sharp angles at dangerous curves, re-grading hilly “blind spots,” and paving gravel shoulders.
- **New Interchange:** Improving regional accessibility by adding connections from local street networks to state highways.

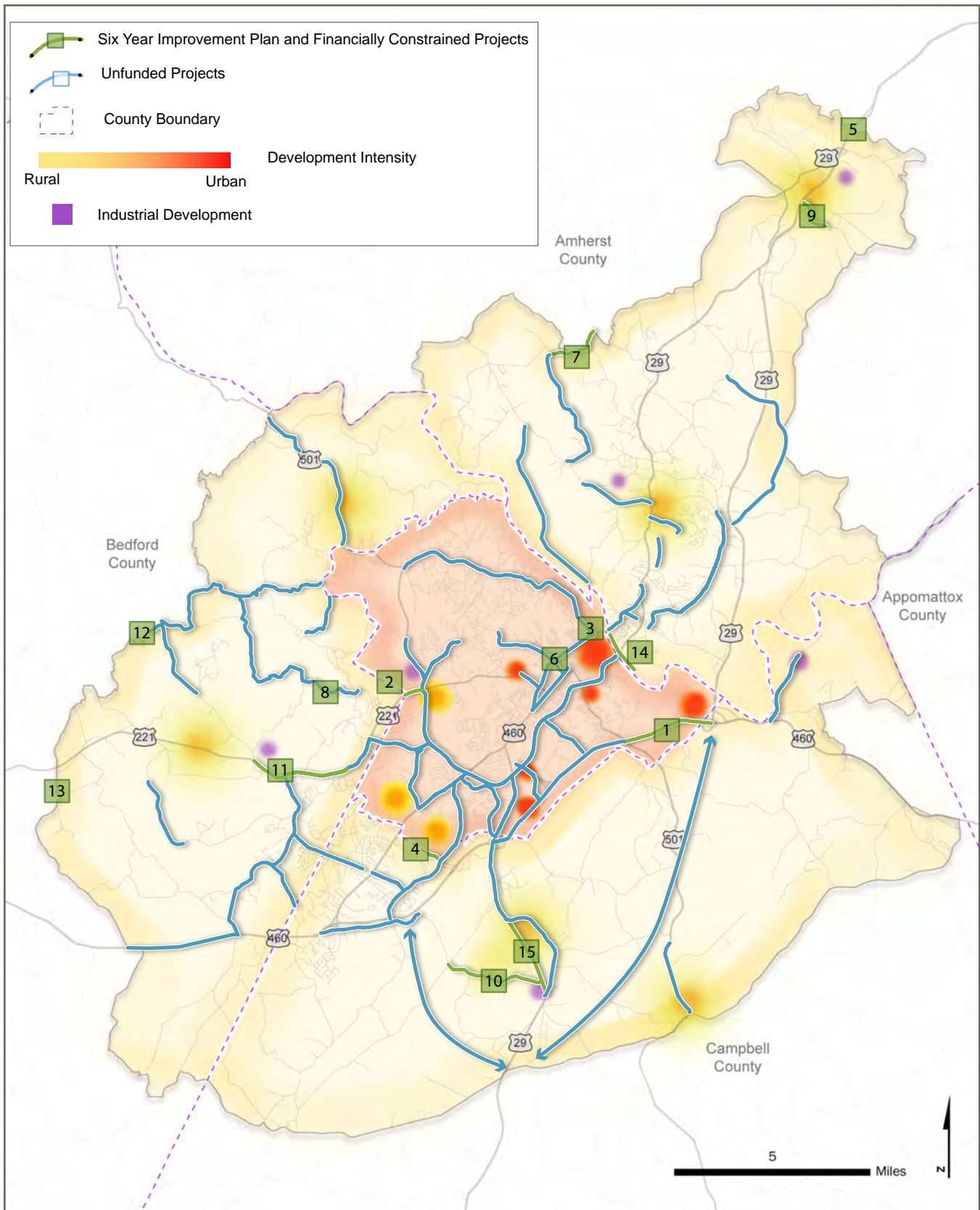


Map ID	Jurisdiction	Project Location	Length (mi.)	Description/Notes	Est Year of Expenditure (YOE)	Total Cost (inflated to YOE)	Funding Prior to 2011	Fund Allocation 2011 - 2035
1	Lynchburg	Rt 460/29 (Richmond Hwy) - Rt 501 (Campbell Ave) to Rt 29 (Monacan Pkwy)	1.67	Safety / Traffic Ops / TSM (Primary)	2015	\$12,951,000	\$4,755,000	\$8,196,000
2	Lynchburg	Rt 221 (Lakeside Dr) Intersection - 0.25 MW Rt 501 to 1.15 ME Rt 501	1.40	Intersection improvement. Prelim. engineering only	2015	\$4,200,000	\$4,200,000	\$0
3	Lynchburg	Rt 501 Bus (Rivermont Ave) over Blackwater Crk	0.25	Rehab bridge. Fully funded, under construction	2010	\$3,682,000	\$3,763,000	\$0
4	Lynchburg	Greenview Dr - Hermitage Rd to 0.22 MS Leesville Rd	0.45	Widen to 4 lanes	2012	\$11,533,000	\$2,193,000	\$9,340,000
5	Amherst	Rt 29 -- NBL over Buffalo River	0.30	Replace bridge & approaches	2012	\$5,971,000	\$936,000	\$5,036,000
6	Lynchburg	Midtown Connector - Rt 29 Bus. to Int. Memorial/5th	1.1	Reconstruct 2-In curb & gutter with flush median	2011	\$22,807,000	\$24,488,000	\$0
7	Amherst	Rt 652 over Graham Creek (Rt 1401 to Rt 675S.)	1.7	Bridge replacement & roadway reconstruction. Project complete; funding is for final payoff.	2010	\$4,466,000	\$4,466,000	\$0
8	Bedford	Rt 621 over Ivy Creek	0.4	Rehab bridge and approaches	2016	\$1,170,000	\$0	\$1,170,000
9	Amherst	Rt 659 (Union Hill Rd) over Rutledge Crk W of N&S RR Xing to Rt T-606)	1.1	Replace/ reconstruct bridge & roadway. Funding for prelim. engineering, RW & construction	2017	\$5,913,000	\$1,119,000	\$4,794,000
10	Campbell	Rt 622 (Lynbrook Rd) over Flat Crk (Rt 683 to Rt 29)	2.53	Replace bridge & reconstruct roadway. Funding for prelim. engineering, RW & construction	2017	\$12,355,000	\$1,990,000	\$10,365,000
11	Bedford	Rt 221 (Forest Rd) E.of Rt 663 to W. of N&S RR bridge	2.3	Improve to 4 lanes w/ center turn lane. Project complete; funding is for final payoff.	2010	\$20,386,000	\$20,386,000	\$0
12	Bedford	Rt 644 (Coffee Rd) over Elk Crk (Rt 665 S. to Rt 665 N.)	0.3	Rehab bridge and approaches	2011	\$3,230,000	\$2,610,000	\$620,000
13	Bedford	Rt 668 (Goode Rd) over N&S RR	0.4	Rehab bridge and approaches	2013	\$1,854,000	\$606,000	\$1,382,000
14	Amherst	River Walk Tr.Ext. - Amherst County Greenway - Rt 1005 & Park Entrance to 6,000' downstream	1.14	New construction	2011	\$2,356,000	\$2,020,000	\$336,000
15	Campbell	Rt 29 - Rt 460 Int to Rt 24	6.60	Spot Improvements: Safety, Traffic Ops, Transp System Management	2016	\$5,000,000		\$5,000,000
	MPO-Wide	Lynchburg District Design-Build Culvert Rehab		ARRA Funding for Bridge Culvert Rehab	2010	\$3,962,000	\$3,962,000	\$0
	MPO-Wide	Safety, Traffic Ops, Transp System Management (CN)	n/a		ongoing	\$10,687,559	\$0	\$10,687,559
	MPO-Wide	Rail Crossing Safety (CN)	n/a		ongoing	\$77,667	\$0	\$77,667
	MPO-Wide	Bridge Rehab/ Replace/ Reconstruct (CN)	n/a	Projects such as bridge or drainage structure rehab, reconstruction, replacement on/ adjacent to alignment	ongoing	\$17,522,800	\$0	\$17,522,795
	MPO-Wide	Transportation enhancements/ byway/ bike & ped/ other non-traditional transp projects (CN)	n/a		ongoing	\$544,198	\$0	\$544,198
	MPO-Wide	Federal Lands Highway (CN)	n/a	Projects funded and/or administrated by Federal Lands Highway Division	ongoing	n/a	\$0	determined on an annual basis
	MPO-Wide	Recreational Trails (DCR)	n/a	Projects funded/ advanced through VA Dpt of Conservation & Recreation recreational trails program	ongoing	n/a	\$0	determined on an annual basis
	MPO-Wide	General System Maintenance: Urban, Primary & Secondary Systems	n/a	Preventive Maintenance, System Preservation, Traffic & Safety Ops, Preventive Maintenance for Bridges	ongoing	\$1,630,111,243	\$0	\$1,630,111,243



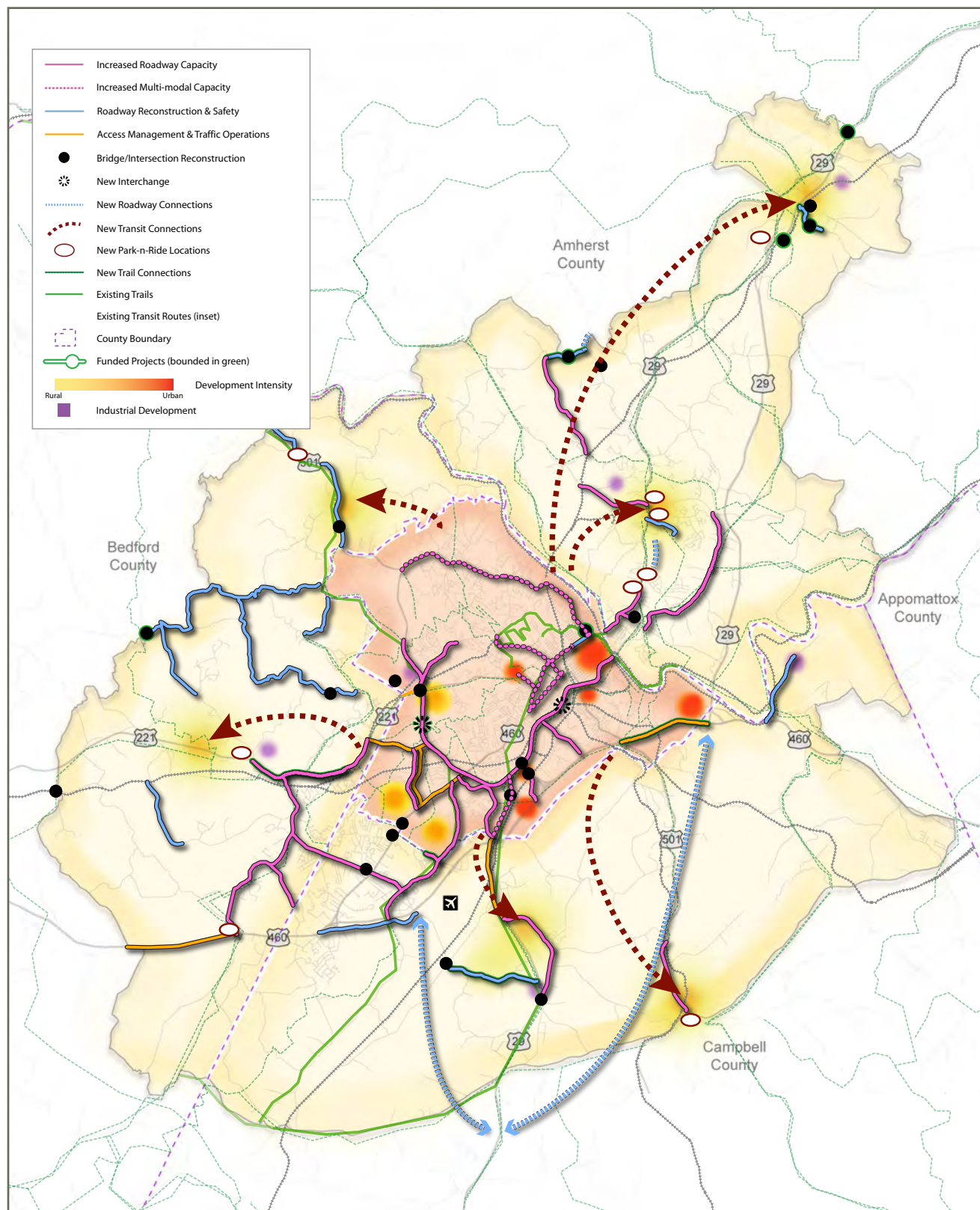


Constrained Plan





## Unconstrained (Vision) Plan Summary Map





## Land Use Policies and Strategies Toolbox

Plan 2035 includes a summary of land use policies and planning strategies that could help to advance the “Alternative Perspective” approach. Specific suggestions for each locality to consider are provided in Chapter 6 of the Final Plan. The strategies could be implemented through comprehensive plans, zoning ordinances, design guidelines, capital improvement programs, and other processes.

### ***Designate and promote preferred growth areas/development sites***

Locating activities in preferred higher-density growth areas and development sites generates several benefits. It encourages and facilitates redevelopment and infill, supports transit, and guides new development to appropriate areas with ready access to existing infrastructure.

### ***Designate and promote rural/agricultural/open space preservation areas***

In concert with strategies to designate areas suitable for growth, localities need to provide for the long-term use of rural and designated natural resource areas for preservation, farming, forestry, and recreation. The goals of preservation vary depending on the unique situations of each community.

### ***Apply access management strategies to preserve corridor capacity, safety, and functionality***

When multiple access points are located too close together along a heavily traveled corridor, travelers experience delay, congestion, and crashes. Consolidating access points into fewer locations makes travel smoother and safer. Engineering policies such as the VDOT Access Management Guidelines promote traffic management techniques such as intersection and traffic signal spacing, location of driveways, and median openings. Local land use policies complement corridor design standards by promoting adjacent multi-modal connections between parcels, and by focusing accessibility into areas where development is desired.

### ***Allow or require mixed use zones***

A walkable environment provides a balance of jobs, housing, restaurants and shopping within a compact area. Successful, mixed use development features both vertical (multiple floors) and horizontal (adjacent buildings) mixed use; interconnected street networks that enhance mobility for pedestrians and cyclists, and allow users to park once and walk between several uses; and an array of activities during daytime, evening, and weekend hours, that foster a busy, safer and exciting environment 24 hours a day.

### ***Use urban dimensions in urban places***

Changes in dimensional standards, such as the size of lots, setback requirements, height restrictions, etc., can improve connectivity, and make places more walkable and transit-friendly.

### ***Fix parking requirements***

Providing an overabundance of free parking encourages driving, and large parking lots create an inconvenient and potentially unsafe barrier to pedestrian activity. On-site parking reductions can be encouraged through shared-parking agreements and community parking facilities. In addition, parking lots can be relocated to the rear of buildings in order to create more pedestrian-friendly streets.



***Increase density/intensity in urban centers***

Increased density creates the customer base needed for transit, retail, and many desirable amenities residents want. Higher density developments are appropriate for mixed-use areas that allow walking and biking to shops and services, which reduces driving and can lessen demand for parking. Communities can locate higher density development in places that are, or could be, served by bus or rail transit. This also reduces the need to drive and provides other environmental benefits.

***Enact design standards for walkable places***

In many communities, current codes result in places that prevent or discourage walking by imposing low density design, including overly wide streets and landscapes designed for fast-moving cars instead of people. Design standards can be established for public and private streets and sidewalks that create a pedestrian-scaled connection between all elements of the built environment.

**Multimodal Corridor Development Concept**

One of the key aspects of the Alternative Perspective Scenario, and also an important focus of corridor improvements within the current constrained plan, is the need to develop multimodal corridors that provide multiple means for the movement of people and goods, from driving and taking transit to walking and bicycling. The following series of illustrations show ways in which general best practices can be applied over time to transform a typical suburban strip corridor into a mixed use, multimodal center.

The focus area for this hypothetical exercise is Timberlake Drive just west of Greenview Drive. This section was chosen because it represents typical suburban conditions on major roads through the region. Also, due to its proximity to both Cornerstone to the southeast, Wyndhurst to the northeast, and the High School directly to the east it is feasible that this corridor could become the center of a suburban area that supports multimodal access and development.

**Existing Conditions**

The suburban strip center along Timberlake Drive is characterized by massive paved parking lots that separate the major destinations from the street and from each other. The result is an auto-centric environment despite the fact that it is located quite close to some residential areas.

**Phase 1**

Public street improvements and underground utilities enhance the pedestrian environment. Sidewalks, shade trees and street lights increase the community's walkability, inviting people to get out of their cars by providing safe travel options for people of all ages and abilities. Median openings along the roadway are closed or modified.

**Phase 2**

One-story warehouse and office buildings become mixed-use buildings, with stores on the ground floor and apartments, condos or offices on upper floors, and structured parking. The corridor begins to become a local or regional shopping destination with storefronts and pedestrian plazas along new connector roads. As redevelopment occurs, buildings are pulled closer to the street, with parking relocated to the rear entrances. A grid street network begins to develop around the corridor, improving traffic flow and safety on the main boulevard.



### Phase 3

Additional mixed use development and connector streets complete the links to adjacent neighborhoods. Instead of driving to each individual store, residents can now walk to the center, or drive and park once in order to reach a variety of activities. The result is a lively suburban center that makes efficient use of land and helps to prevent further sprawl by building up instead of out.

The multimodal design has the potential to reduce vehicle miles traveled, cut down on pollution and keep residents active by making it possible for them to walk to stores and convenient services in their neighborhood. Studies have shown that compact, walkable neighborhood design strategies help to lower residents' risk of obesity and heart disease. They also reduce local air pollutants because residents don't have to drive as many miles every day. This high-quality community, with an attractive gathering place and enough residents to support the businesses and local services, ensures long-lasting economic vitality and environmental health.



*Existing Conditions*



*Phase 1*



*Phase 2*



*Phase 3*



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