

Northwest Fluvanna/Southwest Louisa Multimodal Corridor Study

Draft Report
June 12, 2007

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Executive Summary

Fluvanna and Louisa Counties are characterized by rolling farmland, historic village centers, and a rural way of life. The Northwest Fluvanna/Southwest Louisa Multimodal Corridor Study focuses on the fastest growing section of these two counties. The study area is bounded to the north by Interstate 64, Route 250 and Zion Crossroads. Highway 15 borders the study area to the east and connects Palmyra, Fluvanna's county seat, to Zion Crossroads. Highway 53 also passes through Palmyra and bounds the study area to the south.

Rapid growth and development in and around the study area has increased commuting traffic to employment centers in Charlottesville, Richmond and Zion Crossroads. The Northwest Fluvanna/Southwest Louisa Corridor Study process was based on prior community planning workshops. In the Corridor Study workshops, participants created a Preferred Scenario for future development that addresses both the transportation and the land use challenges facing the area. The Preferred Scenario builds upon the community visions from the Community Plans for Zion Crossroads, Palmyra and Lake Monticello, and incorporates transportation and land use modeling data to project how the area would develop.

This Report summarizes the Corridor Study process, and provides a hands-on, how-to guide for achieving the region's vision for the future. As the Community Involvement Process (Chapter II) and Technical and Alternatives Analysis (Chapter III) describe, through the Corridor Study process, a Preferred Scenario was developed as the best approach to preserve the rural character of the region, create a multimodal transportation network, and increase the area's economic growth opportunities. In the Preferred Scenario, Zion Crossroads would develop into a regional mixed-use center, Lake Monticello retail areas could become neighborhood-scale mixed-use centers, and most growth around Palmyra would be limited to the area immediately surrounding the Village and just south of the Rivanna River.

The Framework Plan (Chapter IV) provides policymakers, planners, and the public with design guidelines and development tools to help achieve the common vision for the region's future, and includes strategies for coordinating transportation and land use. Chapter V, Intersection Improvements, includes detailed safety and capacity improvements for three key intersections in the Study area: Rt. 250 & Rt. 15 (Zion Crossroads), Rt. 53 & Rt. 15 (Palmyra), and Rt. 53 & Rt. 600 (Lake Monticello).

The Report concludes with recommended short-term and long-term implementation strategies in Chapter VI. *Note: Chapter VI, Recommended Implementation Strategies, will be developed following the discussion and project feedback gathered at the Wednesday, June 20 public meeting during the Fluvanna Board of Supervisors meeting.*

Community Involvement Process

Community involvement for the Northwest Fluvanna/Southwest Louisa Corridor study built upon the community workshops for the Palmyra, Lake Monticello and Zion Crossroads community plans, and brought the three communities together to create a regional vision for the corridor.

Summary of Community Involvement: Palmyra, Lake Monticello, Zion Crossroads



Palmyra

The Palmyra Community Plan held two community workshops starting with a kickoff meeting in May 2005. At this meeting, residents, business owners and local officials identified several areas of interest. The June 2005 public workshop focused on a “Post-It Note” visioning exercise, which helped attendees identify and prioritize common interests and themes for Palmyra. The workshop culminated with a mapping exercise in which the groups summarized their comments on maps and presented their findings and recommendations to the larger group.

The information provided through this process was synthesized and provided a backdrop for a series of two walking audits conducted in July and August 2005. These surveys allowed the project team to review the comments and suggestions of the public in a detailed, site-specific context. This process was captured in the Palmyra Community Plan. Overall, the Palmyra Community Plan emphasizes:

- Enhancing village character
- Guiding village-scaled development
- Improving the safety and efficiency of the transportation system
- Protecting the social and environmental resources

Detailed information about the outcomes of the Palmyra community involvement process can be found in the Additional Resources section of this document.

Lake Monticello

The community participated in a kick-off meeting, two workshops, and several personal interviews. Over ninety community members participated in the process including residents, civic leaders, business operators, county staff, and elected officials, all of whom have vested

interests in the future of Lake Monticello and the surrounding areas. Each of the meetings was held in a different part of the community to encourage a broad range of participation.

During the primary community-wide workshop, participants engaged in a series of exercises involving individual, small and large group activities. Each activity or task engaged participants in a variety of ways. Special care was taken to ensure that the workshop setting was welcoming, encouraged participants to be at ease with one another, invited thoughtful consideration of questions, ideas and tasks, and allowed for a degree of informality and social interaction. These ideas were captured in the Lake Monticello Community Plan. Overall, the Lake Monticello Community vision emphasizes:

- Improving the safety and efficiency of the transportation system
- Enhancing commercial areas as village-scaled communities
- Preserving the natural resources and rural character
- Encouraging housing for seniors and a growing workforce

Detailed information about the outcomes of the Lake Monticello community involvement process can be found in the Resources section of this document.

Zion Crossroads

Public involvement for the Zion Crossroads Community Plan began during the development of earlier plans and studies such as the United Jefferson Area Mobility Plan (UnJAM Plan) and the Eastern Planning Initiative. Two Zion Crossroads Community Plan community workshops were held to build on this work and to focus more closely on Zion Crossroads.

The March 2005 public workshop included an overview PowerPoint presentation, small group roundtable discussions, and a “Post-It Note” visioning exercise. The workshop concluded with an open discussion of the themes identified during the visioning exercise. At the September 2005 public workshop, new and returning participants received an overview presentation detailing the existing conditions, prior work completed (including a review of the March 2005 workshop), and the timeframe for the development of the Zion Crossroads Plan. After this presentation, residents participated in a Post-it Note exercise similar to the exercise in March, this time focused on specific improvements and their implementation. Working in groups, participants applied these themes while reviewing large aerial photographs of the Zion Crossroads area and identified both strengths and areas for improvement. These ideas were captured in the Zion Crossroads Community Plan. Overall, the Zion Crossroads vision emphasizes:

- Creating a distinct identity for the Zion Crossroads area
- Improving the safety and efficiency of the transportation system
- Protecting rural and environmental features
- Supporting economic development and community based services

Detailed information about the outcomes of the Zion Crossroads community involvement process can be found in the Additional Resources section of this document.

Summary of Community Involvement: NWF/SWL Corridor Study



Community involvement in the Corridor Study process included briefings to the Fluvanna Planning Commission and Board of Supervisors, as well as community meetings. In July 2006, the project team hosted a public meeting to get feedback about the Community Elements that were developed based on the visions outlined by the Community Plans. Workshop Participants placed dots representing types of development, green space, and other land uses to create development scenarios for the Study area. The project team consolidated the development scenarios outlined by the workshop participants to create three possible scenarios.

At the November 2006 workshop, participants reviewed the three scenarios that were developed based upon the July 2006 workshop, and the development and infrastructure impacts that are likely to occur under each scenario.

- Trend Scenario: Projects what the area would look like if current transportation and development trends continue
- Scenario 1 ("Zion Focus"): Focuses most growth in the Zion Crossroads area, with some growth also occurring around Lake Monticello and Palmyra
- Scenario 2 ("Balanced Growth"): Disperses growth between Zion Crossroads, Lake Monticello and Palmyra

After detailed discussion of each scenario, the workshop participants selected a modified version of the Zion Focus scenario as the best way to implement the vision for the corridor area outlined by the Community Plans:

- Preserve and protect natural resources and rural character
- Improve the safety and efficiency of the transportation system
- Support economic development and community based services

This Preferred Scenario, and how it could be implemented over time, is described in detail Chapter IV, Framework Plan.

Technical and Alternatives Analysis

The Corridor Study builds upon the work of the Eastern Planning Initiative, and the several previously completed Community Plans: Lake Monticello, Zion Crossroads, and Palmyra Community Plans. While each of the plans focused on the unique character of each community, several recurrent themes appeared in all three:

- Preserve and protect natural resources and rural character
- Improve the safety and efficiency of the transportation system
- Support economic development and community based services

The visions described in the community plans created the basis of the Community Elements developed for the Corridor Study. Community Elements are types of land uses that capture the vision described in the Community Plans. Six Community Elements were created and serve as building blocks for growth and development: Neighborhood Residential, Neighborhood Mixed-Use, Regional Mixed-Use, Rural Cluster, Regional Employment and Village. Graphics were developed to depict each of the six community elements.

The Community Elements were incorporated into the CorPlan model and used by workshop participants to create three distinct scenarios. These scenarios simulated how the study area might develop over the next 25 to 50 years:

- ❖ ***Trend scenario***, in which growth continues the current trend of single-use, large-lot, rural/suburban residential and strip-oriented commercial;
- ❖ ***Zion focus scenario***, in which Zion Crossroads captures the bulk of regional growth and develops into a compact core of employment, mixed-use and neighborhoods. Lake Monticello develops its existing retail nodes into neighborhood mixed-use centers, while Palmyra experiences minimal growth beyond the existing village, and
- ❖ ***Balanced growth scenario***, which is similar to the second scenario, but places more of a balance in growth among the three planning areas. Zion maintains its regional function, mixed-used neighborhood centers and surrounding neighborhoods grow in Lake Monticello, and Palmyra Village expands south of the Rivanna River.

The CorPlan Model includes infrastructure and socioeconomic characteristics for the Community Elements included in each scenario. The CorPlan outputs are then used as inputs for the travel demand model. The travel demand model generates the projected travel demand for each scenario. This travel demand then becomes the basis for estimating the regional infrastructure improvements for each scenario.

NW Fluvanna/SW Louisa Multi-modal Corridor Study Community Element Fact Sheet

	Neighborhood Residential		Neighborhood Mixed Use		Regional Mixed Use Center		Rural Cluster		Regional Employment Center		Village	
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Land use distribution (acres)

Single family residential	14.0	44.6%	0.7	2.3%	0.0	0.0%	3.7	11.9%	0.0	0.0%	5.4	17.2%
Multi-family residential	2.6	8.4%	3.5	11.1%	5.4	17.2%	0.0	0.0%	2.1	6.6%	0.0	0.0%
Industrial	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	6.8	21.7%	0.0	0.0%
Retail	0.0	0.0%	5.5	17.4%	3.3	10.6%	0.0	0.0%	0.5	1.6%	4.7	15.0%
Office	0.0	0.0%	3.2	10.3%	4.1	13.1%	0.0	0.0%	6.3	20.0%	4.0	12.6%
Civic/Inst	0.0	0.0%	1.8	5.7%	1.2	3.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Parks/open space/preservation	6.7	21.4%	2.4	7.6%	4.1	13.0%	26.5	84.3%	1.1	3.5%	6.4	20.4%
ROW/infrastructure	8.0	25.5%	9.1	28.9%	10.1	32.2%	1.2	3.8%	10.6	33.7%	8.9	28.2%
Shared parking	0.0	0.0%	5.2	16.7%	3.2	10.2%	0.0	0.0%	4.1	12.9%	2.1	6.6%
Total	31.4	100.0%										

Residential (dwelling units)

Single family	86	3	0	19	0	23
Multi-family	47	61	203	0	71	0
Total	132	64	203	19	71	23
Net density*	7.9	15.1	37.7	5.1	34.1	4.3
Gross density	4.2	2.0	6.5	0.6	2.3	0.7

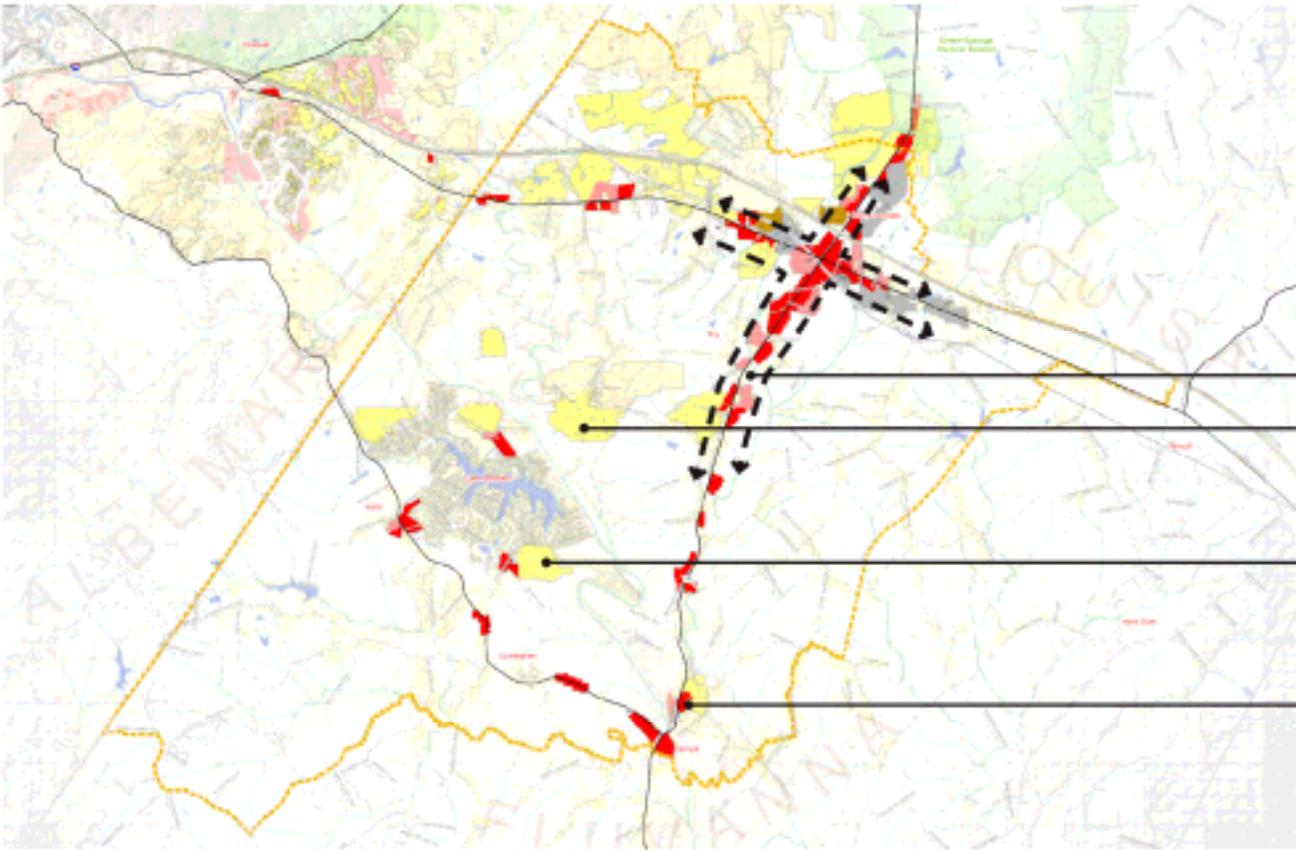
Non-residential (sq. ft. floor space)

Industrial	0	0	0	0	288,300	0
Retail	0	250,000	161,200	0	20,900	49,900
Office	0	154,898	205,773	0	234,282	33,249
Civic/Inst	29,526	52,770	50,356	0	0	47,350
Net floor area ratio (FAR)*	295.3	1.0	1.1	NA	0.9	0.3
Gross FAR	0.02	0.3	0.3	NA	0.4	0.1

*Does not include open space, ROW/infrastructure or shared parking.



trend scenario



The bulk of new growth for retail & office occurs along Routes 15 & 250, following the current land-use patterns of single-use, auto-oriented development. The outlying areas of Lake Monticello develop as residential subdivisions with small auto-oriented retail centers, as do the areas along the western edges of Routes 250 & 15, and the intersection of Routes 600 & 616. Palmyra sees new residential subdivisions to the north and retail to the south.

legend

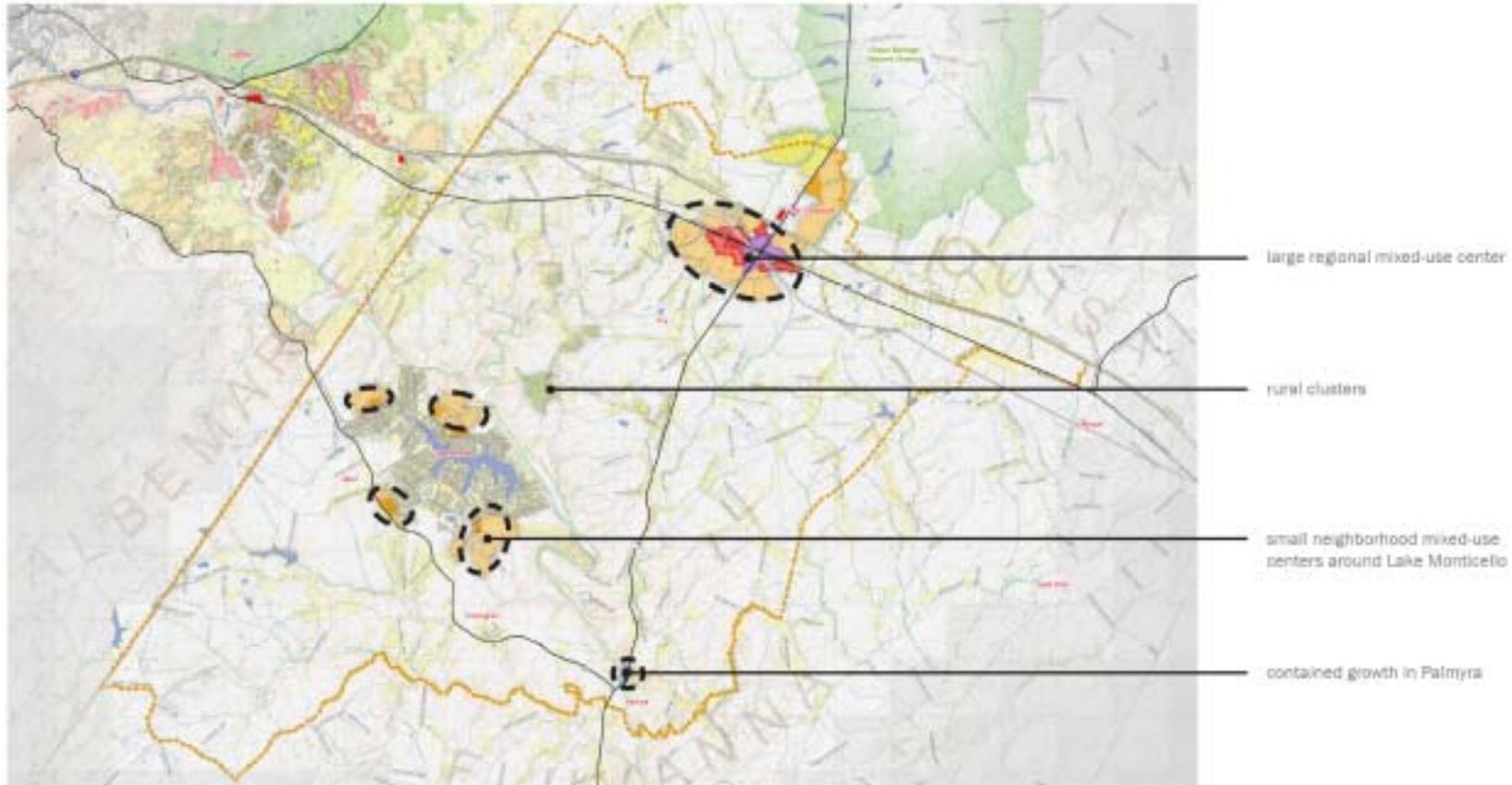
existing development

- residential
- non-residential

trend development patterns

- multi-family
- single family residential
- retail
- office
- industrial
- single family residential open lot
- rural residential

scenario one - Zion focused



Most new growth occurs at Zion Crossroads, which develops into a large regional mixed-use center featuring employment centers as well as a diverse mix of retail opportunities and housing options. The current retail centers surrounding Lake Monticello develop into neighborhood mixed-use centers with smaller scale retail opportunities & housing options. Growth in Palmyra is limited to the area immediately surrounding the current village. Developments in currently rural areas are limited to rural housing clusters.

legend

existing development

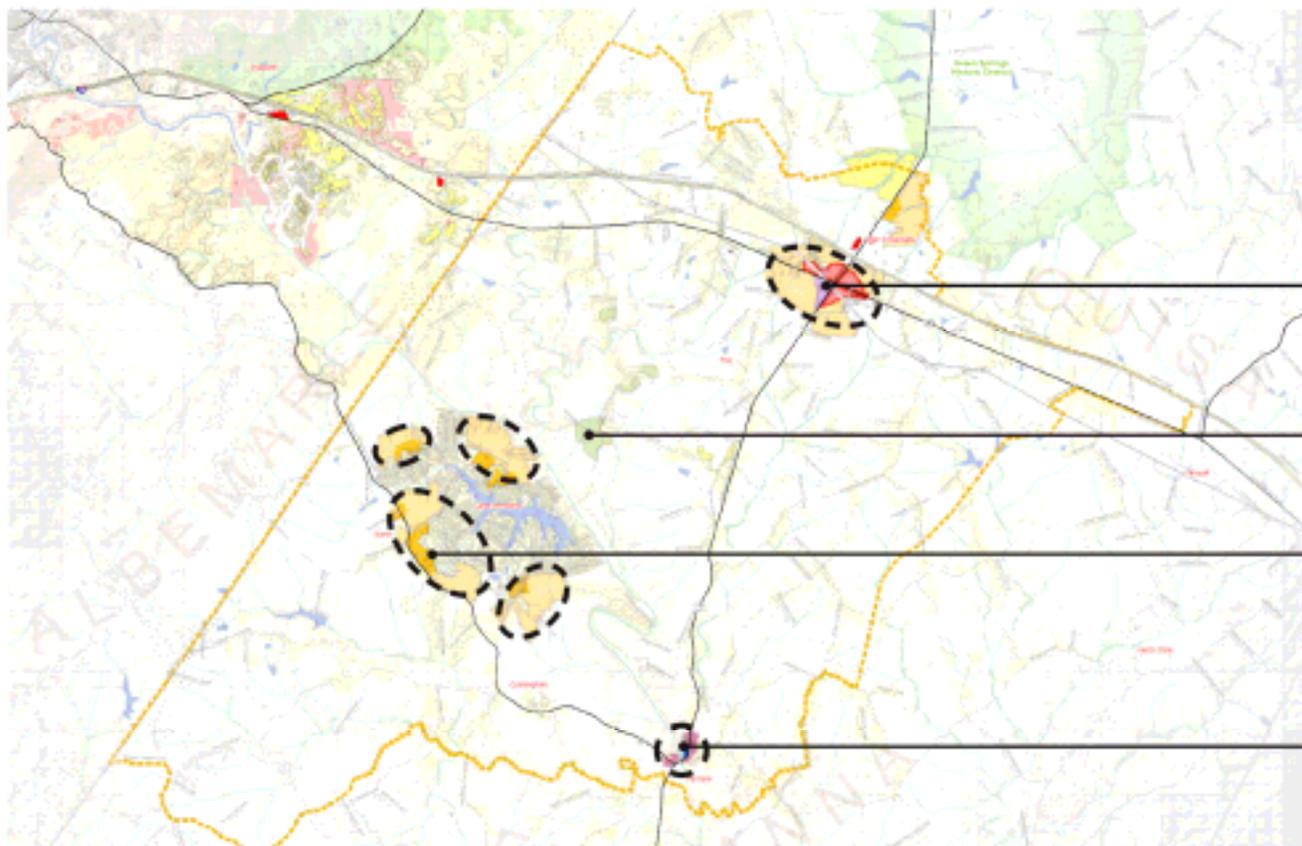
- residential
- non-residential

enhanced placetypes

please see "placetypes" sheet for additional information on enhanced placetypes

- neighborhood mixed-use
- neighborhood residential
- mixed-use center
- employment center
- village core
- village (same as above, with less office use & more office use)
- rural cluster

scenario two - balanced growth



mixed-use center

rural clusters

large neighborhood mixed-use centers around Lake Monticello

growth around Palmyra & south of Route 53

legend

existing development

residential

non-residential

enhanced place types

please see "place types" sheet for additional information on enhanced place types

neighborhood mixed-use

neighborhood residential

mixed-use center

employment center

village civic

village (same as above, with less civic use & more office use)

rural cluster

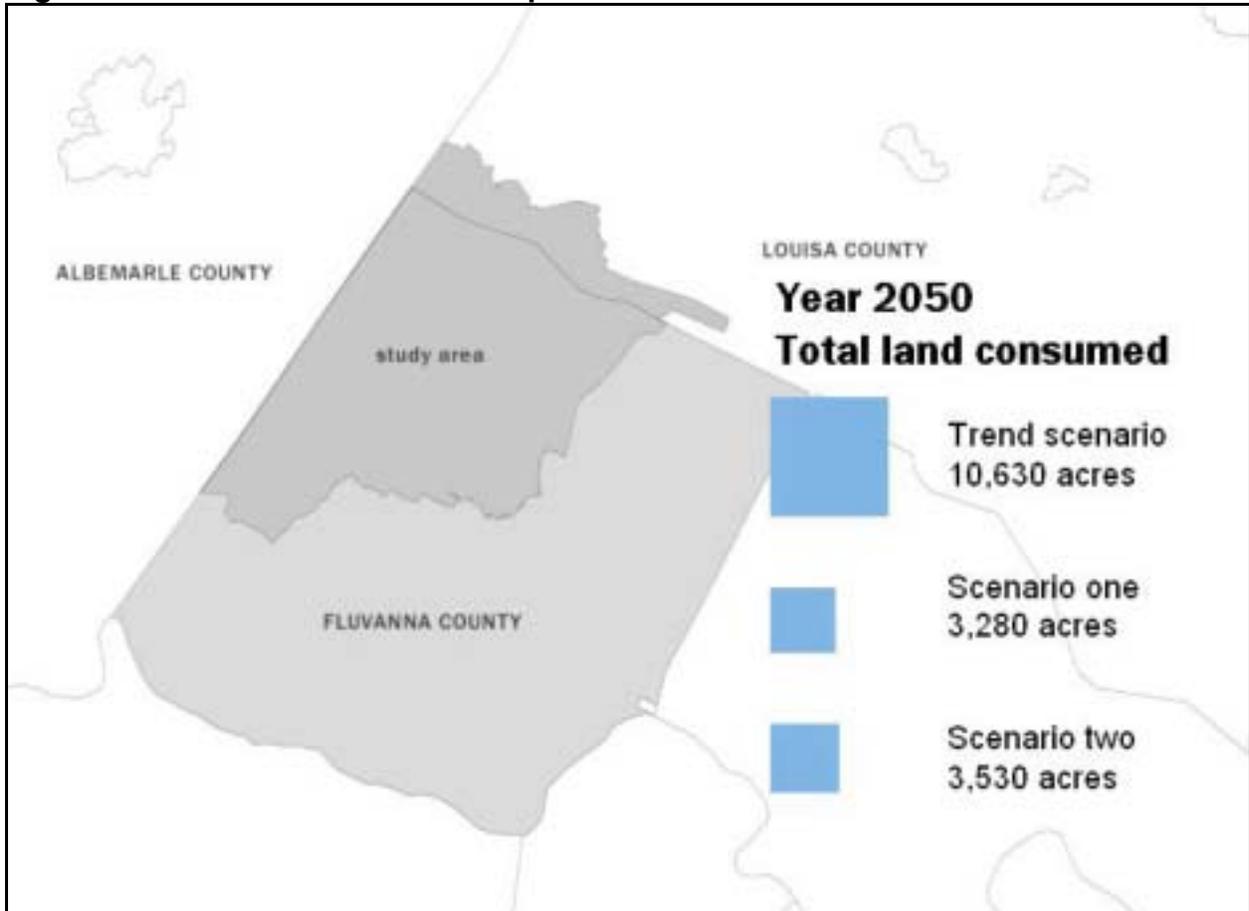
New growth occurs both at Zion Crossroads & the area surrounding Lake Monticello. Zion Crossroads develops into a mixed-use center that is smaller in scale than in scenario one, with employment centers as well as a diverse mix of retail opportunities and housing options. The current retail centers surrounding Lake Monticello develop into somewhat larger neighborhood mixed-use centers with smaller scale retail opportunities & housing options. Growth in Palmyra expands outwards from the existing village as well as expanding to the south of Route 53. Developments in currently rural areas are limited to rural housing clusters.

The three scenarios were evaluated by participants at the November 2006 public workshop, and are summarized in the table below.

	Trend		Scenario 1 - Zion Focus		Scenario 2 - Balanced Growth	
New development - breakdown by land use type						
	acres	%	acres	%	acres	%
Single family residential	5,312	50.0%	1,230	37.6%	1,349	38.1%
Multi-family residential	109	1.0%	238	7.3%	251	7.1%
Retail	889	8.4%	53	1.6%	74	2.1%
Office	606	5.7%	99	3.0%	91	2.6%
Industrial	427	4.0%	60	1.8%	48	1.4%
Open space/parks	1,147	10.8%	708	21.6%	761	21.5%
Road/infrastructure	1,883	17.7%	787	24.0%	848	24.0%
Shared parking	108	1.0%	82	2.5%	93	2.6%
Other	136	1.3%	17	0.5%	22	0.6%
Total	10,619	100.0%	3,275	100.0%	3,539	100.0%
Preservation and Community Character						
New development						
Totals acres developed	10,620		3,280		3,540	
Total land consumed (not including open space/parks)	6,810		1,890		2,040	
Growth within planning areas						
<i>New homes</i>						
Built within planning areas	430	4.4%	3,710	37.7%	4,580	46.5%
Built outside of planning areas	9,420	95.6%	6,140	62.3%	5,270	53.5%
Total	9,850	100.0%	9,850	100.0%	9,850	100.0%
<i>Job growth</i>						
Within planning areas	7,340	27.2%	16,470	61.0%	21,820	80.8%
Outside of planning areas	19,660	72.8%	10,530	39.0%	5,180	19.2%
Total	27,000	100.0%	27,000	100.0%	27,000	100.0%
Options and Opportunities						
Access to shopping						
Homes within 1/4 mi of retail	4,380	24.8%	6,570	37.2%	6,500	36.8%
Total homes in the study area	17,660		17,660		17,660	
Jobs-housing balance						
Homes within 1/4 mi of an employment center	11,340	64.2%	13,900	78.7%	13,860	78.5%
Total homes in the study area	17,660		17,660		17,660	
Housing options by type (new homes)						
Rural	830	8.4%	140	1.4%	140	1.4%
Single family residential	7,550	76.6%	5,300	53.8%	5,790	58.8%
Multi-family (< 16 dwelling units per acre)	1,480	15.0%	2,430	24.7%	3,050	31.0%
Multi-family (> 16 dwelling units per acre)	0	0.0%	1,980	20.1%	880	8.9%
Total	9,850	100.0%	9,850	100.0%	9,850	100.0%
Access to transit						
<i>Priority transit stop at Zion Crossroads</i>						
Homes within 1/4 mile	0	0.0%	420	4.3%	220	2.2%
Homes within 2 miles	4,490	45.6%	7,250	73.6%	5,330	54.1%
Jobs within 1/4 mile	490	1.8%	2,090	7.7%	2,900	10.7%
Jobs within 2 miles	16,950	62.8%	23,380	86.6%	15,560	57.6%
<i>Local transit service in the study area</i>						
Homes within 1/4 mile						
Jobs within 1/4 mile						
Infrastructure						
Average daily vehicle miles traveled (VMT) in the study area	1,910		1,590		1,560	
VMT in congested conditions	320	16.8%	300	18.9%	340	21.8%
Lane miles of new roads	65.1		43.6		43.6	

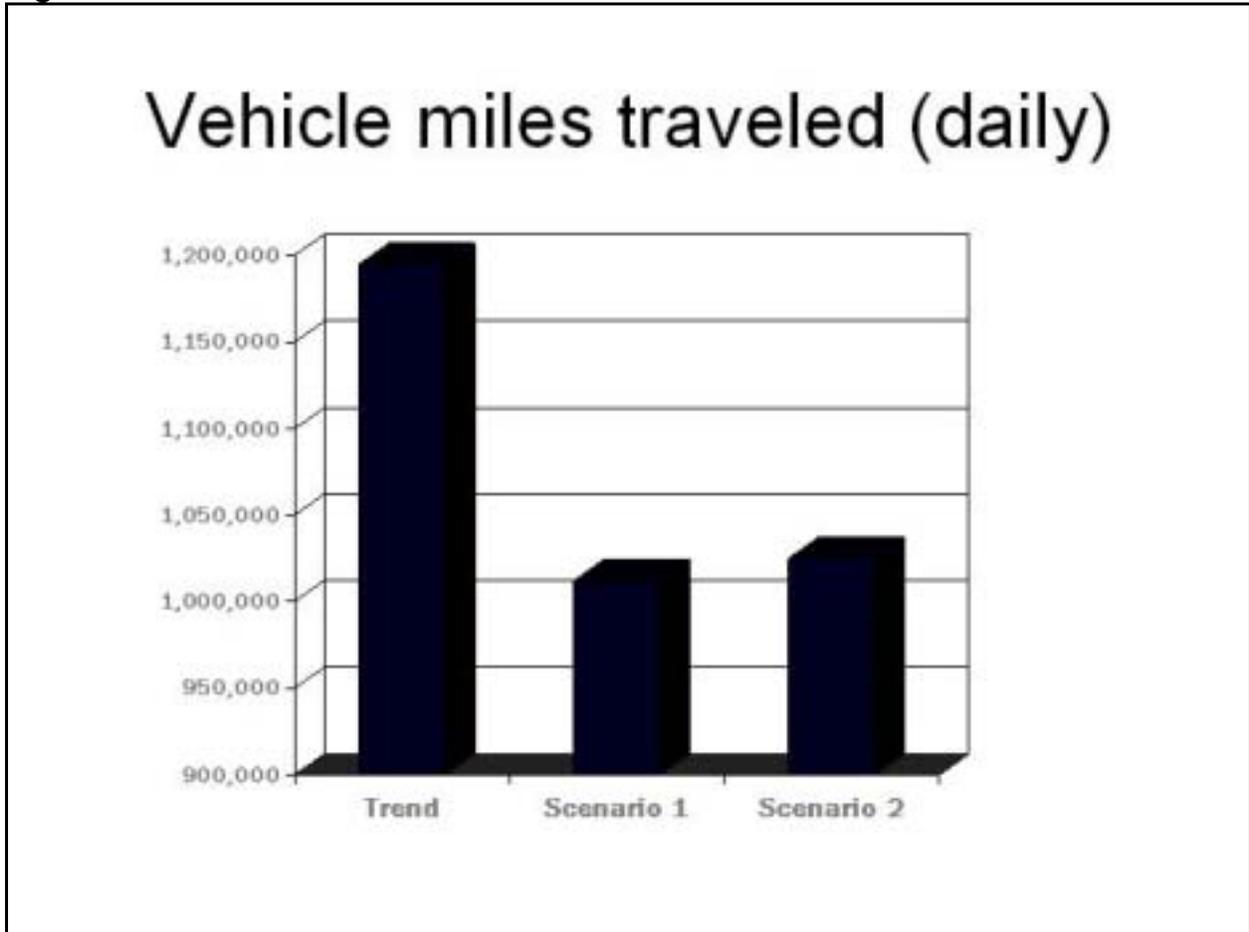
By the year 2050, the study area will have approximately 18,000 homes and 28,000 jobs. The three scenarios provide three different pictures of how this development would occur, and how the development patterns would impact the area. Following the Trend Scenario, approximately 10,630 acres of land in the study area would be consumed by development. Following Scenario 1, approximately 3,280 acres of land would be consumed, while in Scenario 2, approximately 3,530 acres will be consumed. Figure 1 provides a comparison of the amount of land consumed in each scenario (represented by the blue squares).

Figure 1: Year 2050 Land Consumption



Land use and infrastructure outputs from the CorPlan model were also used as inputs for the Travel Demand Model. The Travel Demand Model generated data to describe vehicle travel projected for each of the three scenarios. As Figure 2 demonstrates, the Trend Scenario would require and produce significantly more vehicle travel than Scenario 1 or Scenario 2.

Figure 2: Vehicle Miles Traveled



After detailed review of all three scenarios, the workshop participants strongly preferred Scenario 1 – Zion Focus and Scenario 2 – Balanced Growth over the Trend Scenario. Specifically, Scenario 1 was preferable overall as it appeared to better address infrastructure issues such as adequate water supply and creating a safe and efficient transportation network. However, there were several attractive elements in Scenario 2, although some modifications were necessary including shifting the growth around Palmyra to occur south of the village. The feedback from the November Workshop was used to refine the Community Elements and develop the Preferred Scenario. The Preferred Scenario, Development Guidelines and the Transportation Framework are described in detail in Chapter IV, the Framework Plan.