US 70 Corridor Study

Final Report
Vision and Implementation Plan

RENAISSANCE PLANNING GROUP

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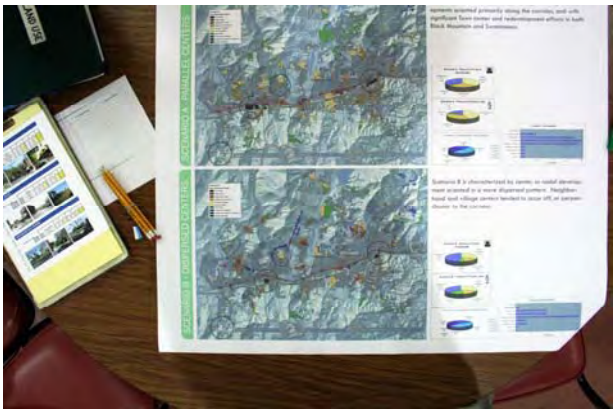
Process Overview

The US 70 Corridor is a significant component of the regional and local transportation network within the French Broad River Metropolitan Planning Organization's boundaries. It is a major east-west corridor that connects the City of Asheville to the Town of Black Mountain and the unincorporated community of Swannanoa in Buncombe County. The corridor itself serves many roles, including as a national highway for passenger and freight travel, a regional arterial for commuters, a gateway to the area's cultural, historic and recreational attractions and as the primary street of several communities. This study engaged stakeholders in a scenario planning process to achieve consensus on a preferred transportation and land use vision for the corridor and a framework plan to implement that vision.

The first step in the process established a context by examining baseline conditions in the corridor. A comprehensive report was produced in December 2006, "Technical Memorandum No. 1: Baseline Conditions," detailing the existing conditions, issues and opportunities along the corridor. This second and final project report summarizes the results of the stakeholder input and preferences for the corridor. It covers the land use scenario planning process and preferences for the future vision of the corridor. It concludes with a detailed list of recommended transportation improvements for implementation, as well as a guide to potential regulatory changes that would further realization of the vision.

As part of the study, two community workshops were held, one in February 2007, and another in September 2007. In both cases workshops were held in Black Mountain and Swannanoa. The first public workshop focused on generating the community's vision for the corridor and involved playing a version of the "dot map" game, which is an exercise in allocating future growth on a map of the corridor. The results of this game enabled the consultant team to discern two distinct scenarios for the pattern and type of future development along the corridor.

These two scenarios, along with a "trend" scenario were modeled, using a land use analysis tool, in order to understand the implications of future growth trends. The results of the modeling were presented at the second workshop in September 2007, where the public was invited to comment and register a preference for one scenario or the other. The input from that set of workshops shaped the recommendations found in this report.



Summary of Vision and Priority Recommendations

The vision for the US 70 corridor is to create places of distinction at key points along the corridor that enhance its character, strengthen the area's economic vitality and expand opportunities to attract residents, visitors and workers by increasing accessibility. These focal points build upon existing issues and opportunities to create mixed use places that encourage walking, cycling, and use of transit; they can also serve to relieve some of the growth pressures on the surrounding rural area and open spaces in the Swannanoa Valley.

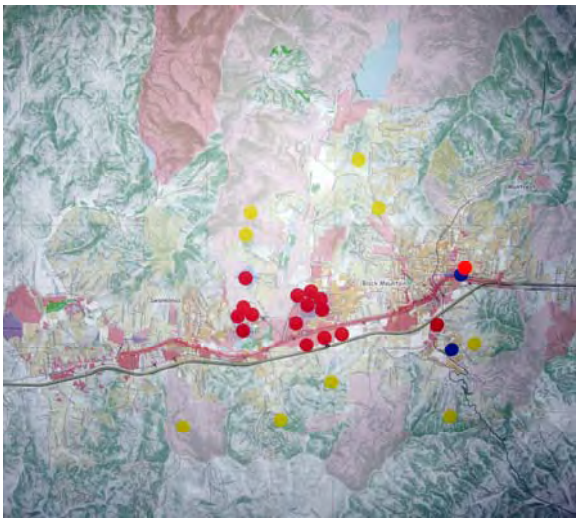
The US 70 Corridor Study is focused on the following goals:

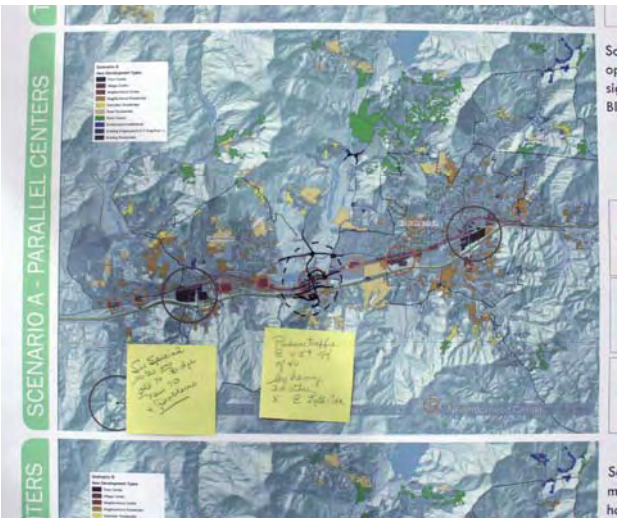
1. Enhance connectivity while preserving capacity along the corridor.
2. Capitalize on existing character and unique assets for redevelopment.
3. Create well designed destinations along the corridor accessible to all types of users.
4. Increase multi-modal opportunities.

This is a long-range 30-40 year vision for redevelopment of the US 70 corridor. The current conditions along US 70 did not happen overnight. For a variety of economic and transportation investment decisions, it took over 30 years for the corridor to evolve into its present state. With that knowledge comes the understanding that positive change, which reflects the community's vision, will also not happen overnight. However, there are many relatively low cost, near-term improvements that the local governments and their partners can undertake that will serve as catalysts to the preservation and revitalization of this important gateway to Asheville and the Blue Ridge Mountains.

The Corridor Plan defines specific "centers", or nodes, of development that can serve as gateways, activity centers, and hubs for existing and planned development. Demonstrating measurable progress toward the corridor's transformation in keeping with the study's vision will be important. To ensure this, the local governments should target their future planning and programming efforts towards addressing the recommendations found within this report.

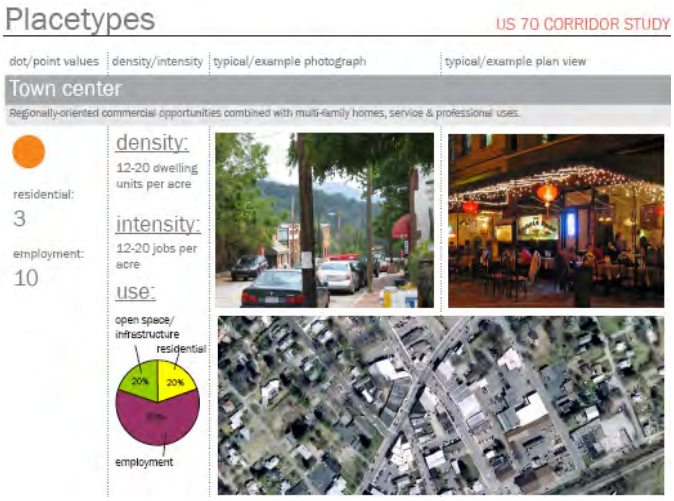
The following pages present the means by which the vision for the corridor was developed and tested.





Land Use Scenarios

What is scenario planning?



The pictures above are of the 'dot map' scenario planning exercise during workshop 1. Participants allocated prototypical place types such as this one (Town Center) to the study area. The dot map game had five place types. Nine place types were developed for the three scenarios tested. These are described in greater detail in the following sections.

Scenario planning a process of creating and testing different future situations in order to better understand their impacts. It helps communities understand where they are, where they might want to go, and can inform and suggest ways on how they get there. The scenario planning process uses community input and evaluates existing land use trends. Based on this information, a few future scenarios are created by allocating development to a study area until future year forecasts of jobs and households are met. The future growth allocations are done by assigning community place types, or community elements, such as "Town Center", "Suburban Residential" or "Employment Institutional."

Using a list of prototypical community place types, the scenarios for the US70 Corridor were built in CorPlan, a land use and transportation scenario planning model utilizing ARCVIEW© geographic information system (GIS) software, and associated databases linked to Excel spreadsheets. The CorPlan model relies on these prototypical community place types to estimate land development potential, and how that potential translates into the location of households and jobs. See Table 1 for the list of place types used in this study.

Each of these place types has associated land use assumptions about how many jobs and households each has per acre. Scenarios for a study area are differentiated by the varying amounts of a place types used, and by where they are located. Generally future place types are allocated to land determined to be undeveloped already,

vacant, and that do not have the presence of some constrained factor such as wetlands, road right-of-way, or steep slopes. In some cases future development can be applied to lands that are currently developed, such as a strip commercial mall, or an old mill site can be areas where future development could be considered. The purpose of scenario planning is to be able to envision and evaluate relative impacts on where and how communities might grow. It is important to realize that scenario planning does not mean that a community will develop in a certain way. It's simply a way of testing the 'what ifs' of the future so people can understand alternatives and make informed decisions about their desired future.

Three scenarios for the US70 corridor study were distilled from the feedback of the "dot map" exercise participants conducted at the first Community Workshop in February. The "dot map" game is a mini-scenario planning process in itself, as participants were asked to allocate future place types to the area until they reached a future total for jobs and households.

The three scenarios derived from public input were the following:

- **Trend** – A conceptual trend scenario characterized by strip commercial and low density, sprawling residential development, and fewer nodal, or center place types.
- **Scenario A, Parallel Centers**. This scenario is characterized by center, or nodal, developments oriented primarily along the corridor, and with significant Town center and redevelopment efforts in both Black Mountain and Swannanoa.
- **Scenario B, Dispersed Centers**. Like scenario A, this scenario is also characterized by center, or nodal development oriented in a more dispersed pattern. However, neighborhood and village centers tended to occur off, or perpendicular to the corridor.

These three generalized scenarios, the process of developing place types and making allocations, and evaluating the scenarios are described in greater detail in the following sections.

Developing Place Types for Scenario Planning

The CorPlan methodology of scenario planning relies on identifying prototypical community elements, or place types. Behind each place type there are assumptions about its makeup such as its mix of housing, its residential or employment intensities, its walkability. Some place types are crafted based on rough inventories of existing conditions, while some place types are considered enhanced or preferable. This US70 corridor study scope did not call for a strong urban design investigation or proposal for places. Some design elements are proposed in the 'enhanced' street cross sections (see section on transportation recommendations). However, for purposes of understanding and testing future land use scenarios along the corridor, nine prototypical land use types were created.

One way of understanding these community types is as a palate of colors, which are applied to the 'canvas' that is the study area. Like a real painting, these place types colors can then be applied to different places, in different amounts and mixes to illustrate various possible futures for an area. Because there are numerical values behind each color of the palate, the future scenarios can be evaluated on any number of indicators such as walkability, land consumed, proximity to transit or employment centers, etc.

Some of these place types are roughly based on based on existing areas, such as downtown Black Mountain, or employment or intuitional centers such as Ingles or Montreat College. Some have land use numbers that are typical of land use patterns across the United States, such as

lower density suburban subdivision patterns. Regardless, it's important to understand that these prototypes are simply conceptual and that it is understood that real life, and communities are far more complex in makeup and diversity than models can accurately represent. It is necessary to develop some palate of future places to understand and test how and where we want our communities to develop, and what the possible impacts are.

The nine place types developed for scenario planning along the US 70 Corridor are outlined in the table below. All percentages are based on coverage of one square acre. The percent redevelopment value is used for areas where place types are allocated to existing development such as a strip mall or sparsely developed neighborhood. It is in a sense an assumed percent of infill development. The percent of streets, sidewalk and parking, civic, open space are standardized amounts per acre that needed to be set aside before one can calculate average households and jobs. The estimated dwelling units and jobs per acre are calculated on the net remaining land.

***Table 1**: Place Types + associated characteristics*

Community Element Place Type (Per 1 square acre)	Percent re-developable	Streets, parking sidewalk	Civic, schools, public facilities	Park, Rec, Open Space	Per Acre Dwelling Unit	Per Acre Jobs
Town Center	35%	25%	4%	4%	8.2	42.3
Village Center	50%	20%	4%	10%	7.0	18.3
Neighborhood Center	20%	15%	4%	5%	5.8	9.7
Employment Institutional	10%	20%	5%	10%	2.7	14.5
Neighborhood Residential	25%	18%	5%	10%	3.1	0.6
Rural Cluster	0%	5%	0%	80%	0.1	-
Rural Residential	0%	8%	1%	1%	0.5	-
Suburban Residential	15%	15%	3	5	1.5	-
Strip Commercial	50%	20%	4%	5%	-	17.3

The following illustrations are provided to help visualize these nine prototypical place types.

Town Center

Town centers in the US 70 corridor context are best represented by downtown Black Mountain, or communities of similar size, though not all the images are of Black Mountain but are simply representative. The town center place type for this study assumed a high level of downtown employment, based on feedback received from workshop participants. This place type is generally characterized by more walkable street networks, have a mixture of employment and residential uses, but characteristically more employment, civic, office and retail than residential. Prototypical town centers tend to be where there are older settlements, where the street grid is in a tighter pattern.

Village Center

Village Centers are similar to town centers but are a reduced scale of intensity in terms of activity, and overall numbers of job and households. The village center type envisioned for the US70 corridor is modeled on the central part of Swannanoa. A village center in this context is less of an employment area, and has a 50-50 job/housing ratio.

Neighborhood Center

Neighborhood centers are the small commercial centers of older, well established, or more dense residential neighborhoods. They are not as intensive an overall land use as either town or village center but they do have a strong mix of housing and jobs. The job types here are mostly retail or service that supported by the nearby neighborhoods. This community type is a lesser scale of intensity than the village center but it is not purely residential, having an occasional local gas station or corner market.

Employment Institutional

Employment or institutional place types are taking many forms but the intent for purposes of scenario planning is that they are largely to represent places of employment and few households. Employment institutional can either be a manufacturing center, regional mall, a correctional facility, or an institution of higher learning. Each of these employment centers do differ in job/housing balance and land use intensity so this place type was created to be simply representative of potentially any one of these.

Neighborhood Residential

Neighborhood residential places are generally found in close proximity to the 'Center' types listed above and provide the rooftops necessary to support these centers and the employment there. These neighborhoods generally are formed as subdivisions or residential areas that grow near these centers, or around schools or other community facilities. Ideally they have a well connected street grid and preferably are designed for walkability. They tend to have higher residential densities than the rural or suburban place types listed below.

Rural Cluster

Rural residential land use assumes two forms in this study, one in a clustered pattern, one in a more dispersed pattern on large lots. Both are very low density, but the rural clustered pattern arranges homes in closer proximity and designates or allocates larger spaces of either agricultural, forested lands as open space, as pictured above. This in an intentional land use pattern that is not yet common, but it is gaining increased popularity because it reduces visual impact on rural landscape as well as keeps large portions of land as working farm, forest or protects natural features. It is important to note, that though the clustered land use type helps maintain working farm land or vistas, it is not ideal from a transportation or connectivity standpoint, for residents here still are highly automobile dependent. Clustered development patterns will also require some intentional implementation tools such as tax incentives, special zoning, or subdivision code.

Rural Residential

Rural residential is more typical low density rural residential than the clustered pattern mentioned above. It can take several forms, either as your working farmland (pictured on the left), or as large lot single family residences (pictured on the center to right). While some people prefer rural housing, and working farms, others find the "McMansions" that sprout up on the landscape as less desirable. Workshop participants expressed a general concern about visual impacts of residential development occurring on steep slopes or higher up the ridge line in the Black Mountain/Swannanoa corridor, while also expressing a preference for working farms and forestland.

Suburban Residential

Since the 1940's the suburban residential, single family subdivision has been the most common and fastest growing community type in the United States. The pictures above are illustrative of these types of suburban, lower density communities. They tend to be more dispersed, are single use with little to no-employment, are generally auto-dependent, consume more land, and have lower densities than the neighborhood residential or other center types of development described above.

Strip Commercial

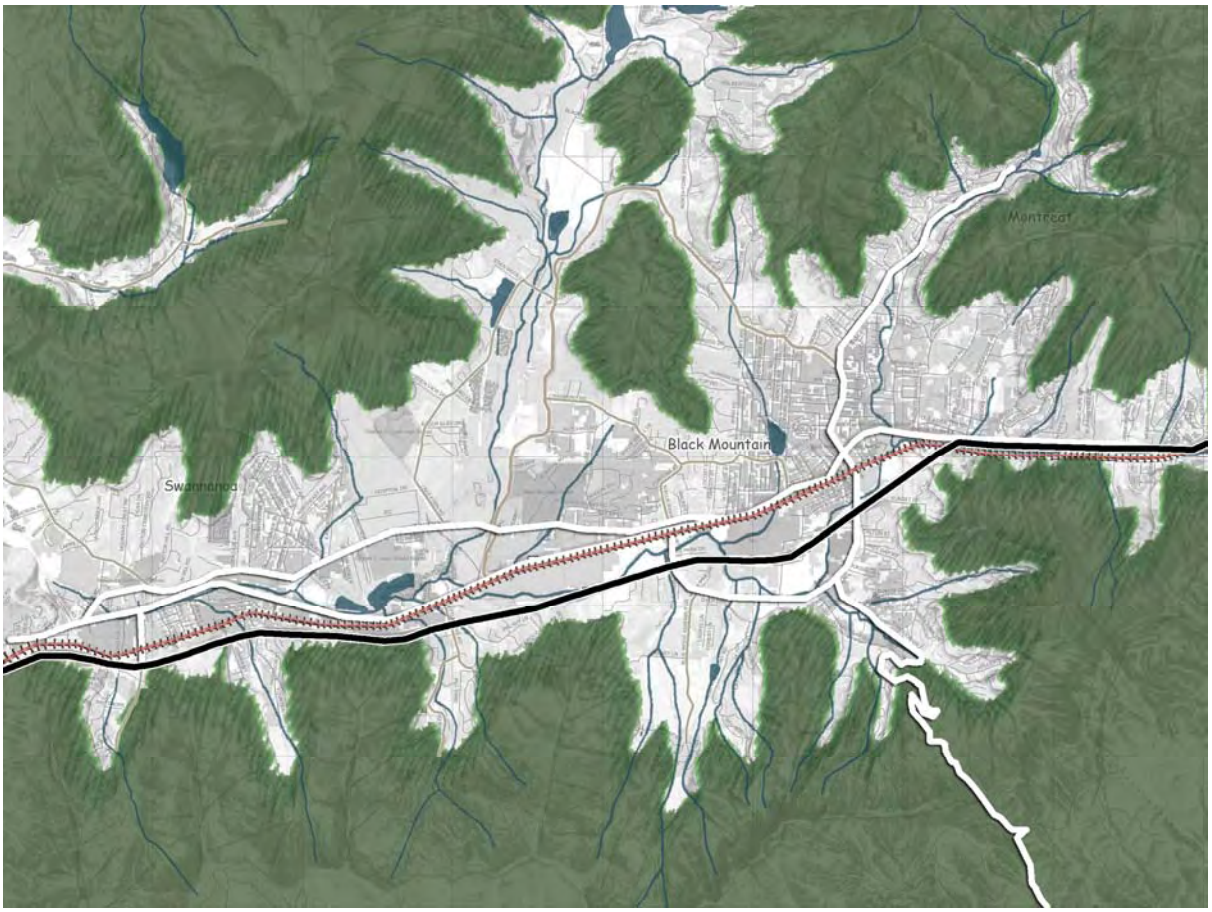
Strip commercial land use occurs along primary or commonly traveled roads where businesses tend to locate because of access and customers. This tends to result in a long strip of commercial or retail. Though it makes logical sense for businesses to desire access, this does not always function well with the desired speeds along these corridors. Strip commercial corridors are heavily auto-oriented, and are not generally places where people feel comfortable or safe walking or biking even short distances. They tend to also become congested over time, with increasing numbers of driveways being added. Some strip commercial corridors suffer from visual impacts from competing signage. They can also draw businesses out of the more traditional, village or town commercial centers.

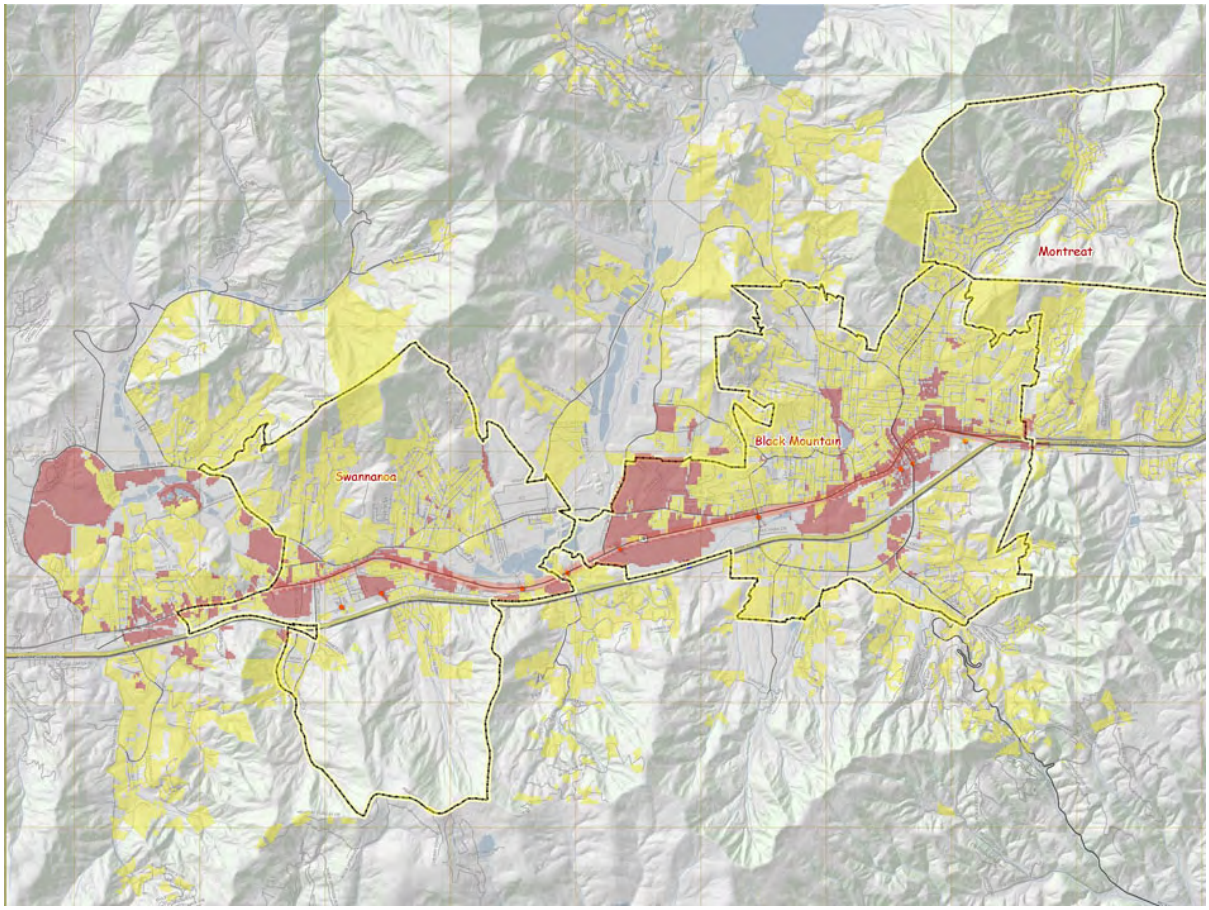
Evaluate Existing Development

The existing development footprint is in the Swannanoa Valley is consistent with the pattern of mountain and valleys. First settled along the low-lying areas around the Swannanoa River, the early towns of Black Mountain and Swannanoa developed along the rail corridor connecting Asheville with the Piedmont city of Salisbury and points east. The original route of what is now US 70 and Old US 70 ran along relatively high ground parallel to the Swannanoa River. Later transportation improvements brought Interstate 40 through the valley, supplanting the passenger rail service as the primary means for connecting to Asheville and points east.

The existing development footprint follows the various transportation routes, with the Town of Black Mountain sitting at the intersection of US 70 and State Route 9. In addition, the village of Swannanoa emerged around the Beacon textile mill, which was situated at the confluence of the railroad and the river. Finally, climbing up the mountain from downtown Black Mountain is Montreat, which began as a retreat center and later developed as a 4 year college and associated residential community.

The last 30 years brought a different form of development to the Valley, characterized as more suburban in areas adjacent to the existing towns and becoming lower density as it stretches into the surrounding rural areas. Recent years have seen a growth in new development stepping up the steep slopes of the Valley.





Identify Developable Land

In order to allocate future growth to the study area, the potential developable land available must be identified. The above image shows the existing development "footprint" in the study area, with yellow indicating residential development and red non-residential development. The breakdown of that land is as follows:

Agricultural	2,269
Institutional	5,674
Non-Residential	3,301
Public, Civic	15,540
Recreational	61
Residential	7,440
Right of Way	1,571
Rural	796
Tax Exempt, Church, othe	1,830
Unbuildable	632
Vacant	9,678
Total Study Area	48,792

Acres Available for Development or redevelopment)	
Agricultural	2,269
Non-Residential (redevelopment only)	3,301
Rural	796
Vacant (unimproved, not developed)	9,678
Total Study Area	16,044

Identify Future Growth Increment

The next step in the process identified future growth projected to occur in the study area in the next 25 years. These projections were obtained from demographic outputs from the regional travel demand model. These figures, shown below, are known as the control totals:

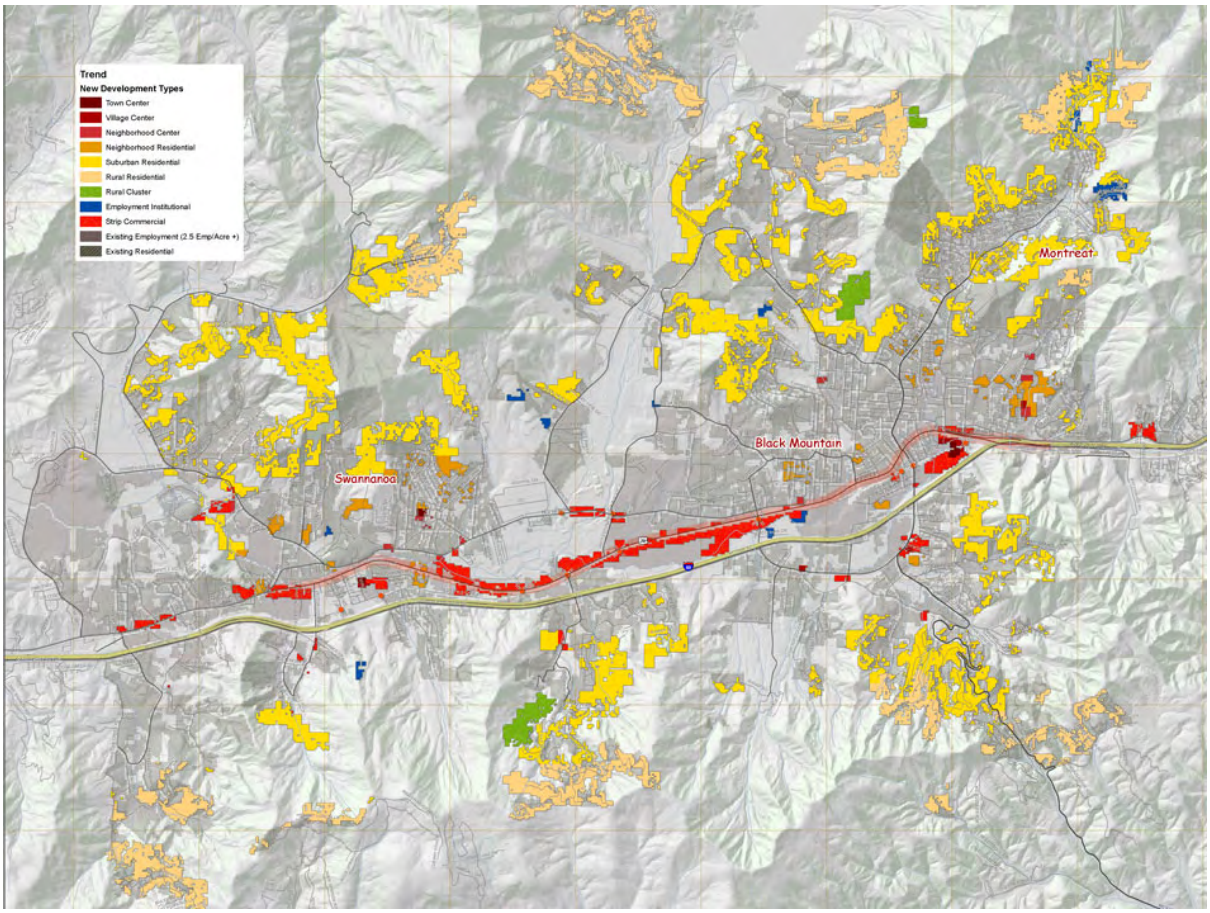
Study Area	2005	2030	Increment
Households	8,285	12,785	4,500
Employment	9,192	14,572	5,380
Population	19,773	28,389	8,616

Developing the Scenarios

Three distinct land use scenarios emerged from the input received at the first public workshop and are described as follows:

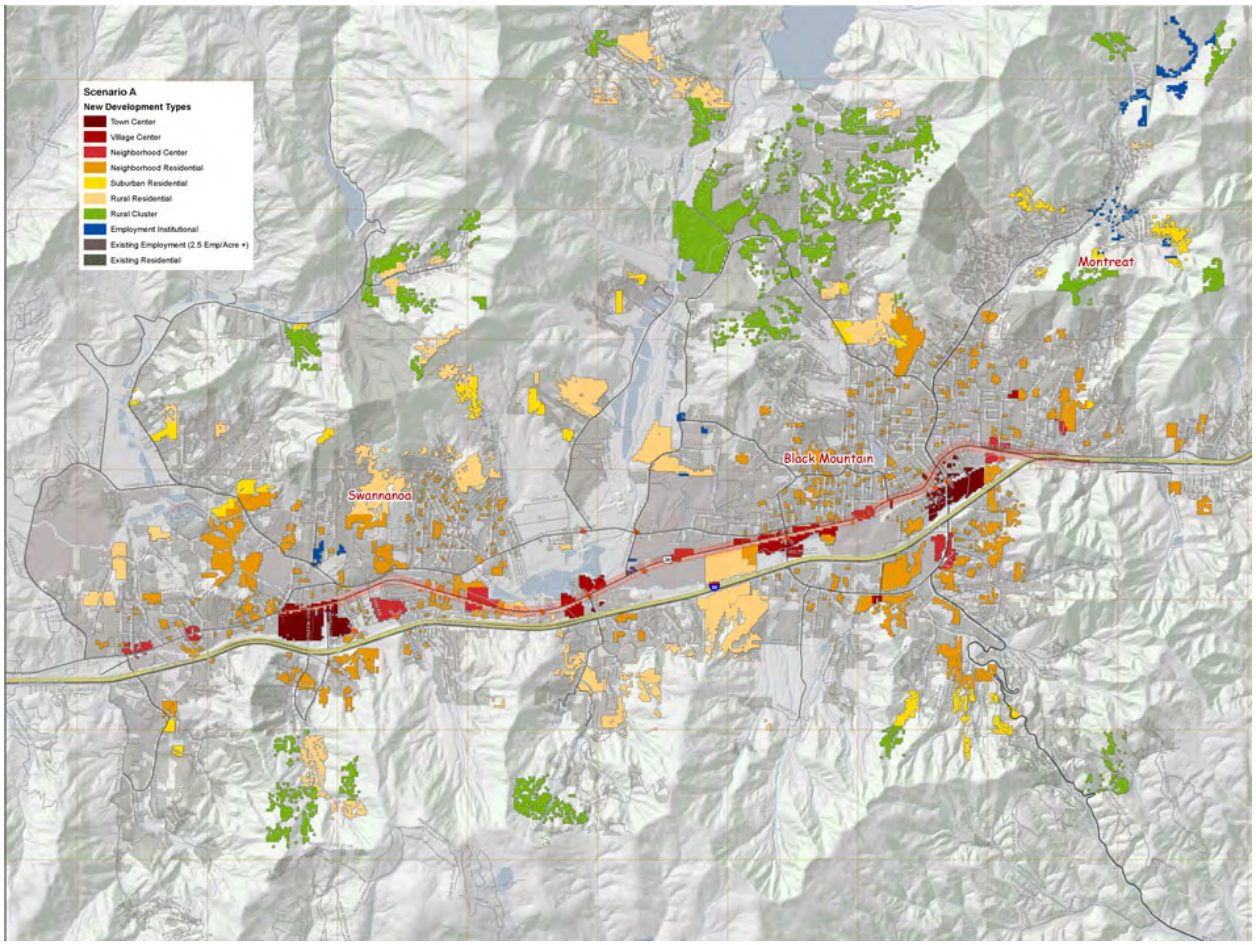
Trend Scenario

The trend scenario is characterized by typical strip commercial development along the corridor and low density, suburban residential occurring off of the corridor.



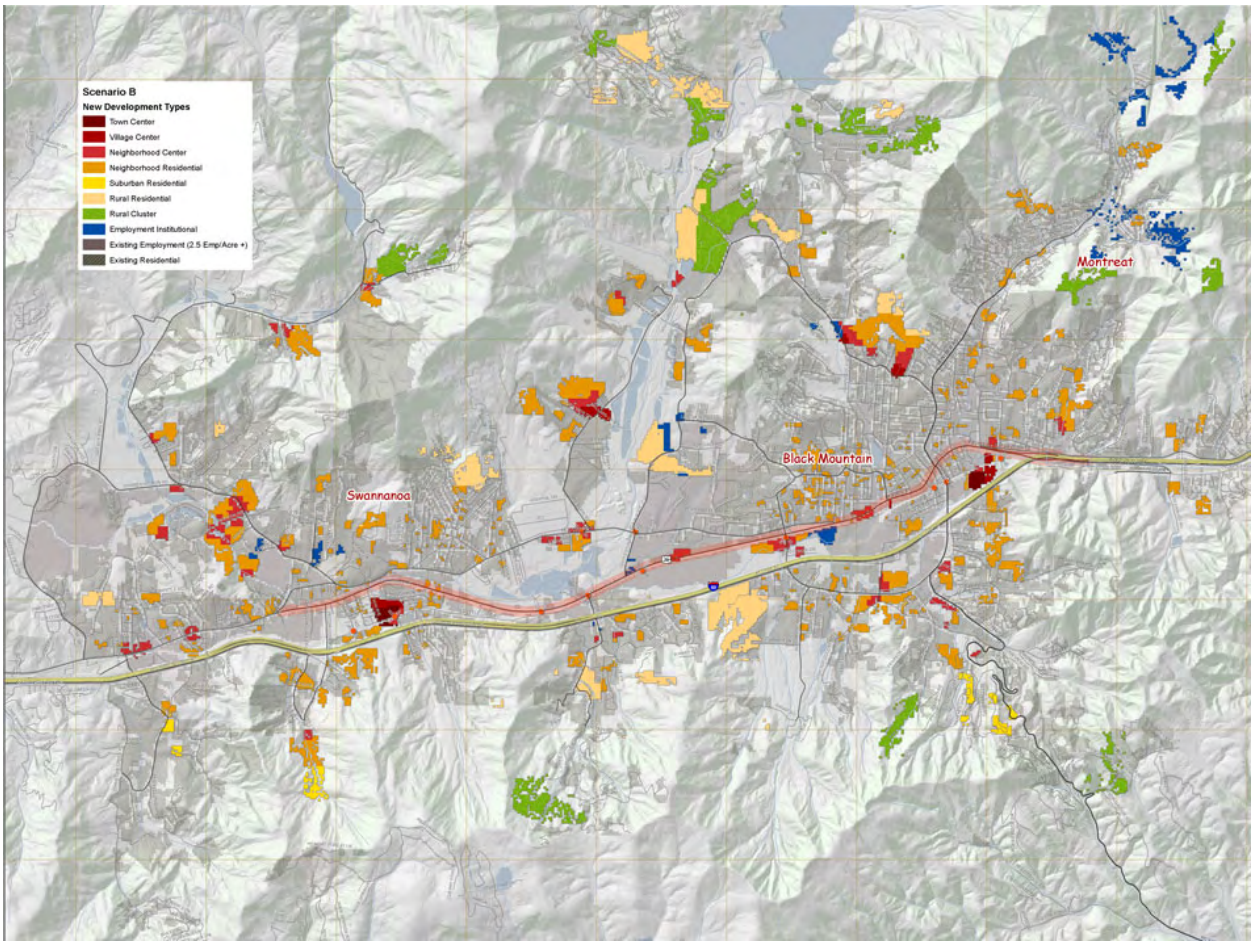
Parallel Centers (Scenario A)

Scenario A is characterized by center, or nodal, developments oriented primarily along the corridor, and with significant Town center and redevelopment efforts in both Black Mountain and Swannanoa.



Dispersed Centers (Scenario B)

Scenario B is characterized by center, or nodal development oriented in a more dispersed pattern. Neighborhood and village centers tend to occur off of, or perpendicular to the corridor.



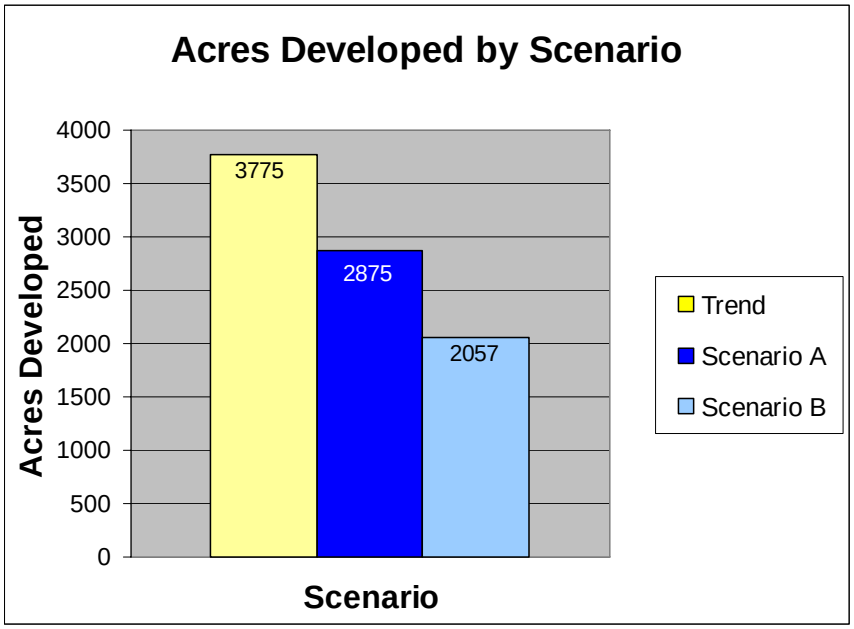
Scenario Evaluation

The two land use development scenarios as well as the trend were modeled in order to understand the different impacts they would have on the corridor. Under each scenario, different amounts of "available" land area were allocated different types of land uses.

Area Allocations

New Development	Trend	Scenario A	Scenario B
Employment Institutional	40	62	141
Neighborhood Center	21	99	175
Neighborhood Residential	144	781	837
Rural Cluster	99	803	399
Rural Residential	1073	738	402
Strip Commercial	277	0	0
Suburban Residential	2098	202	45
Town Center	10	120	21
Village Center	13	70	38
Acre allocations per scenario	3775	2875	2057

The different types of land uses assigned to each scenario resulted in significantly different amounts of new land consumed by development, as shown below:



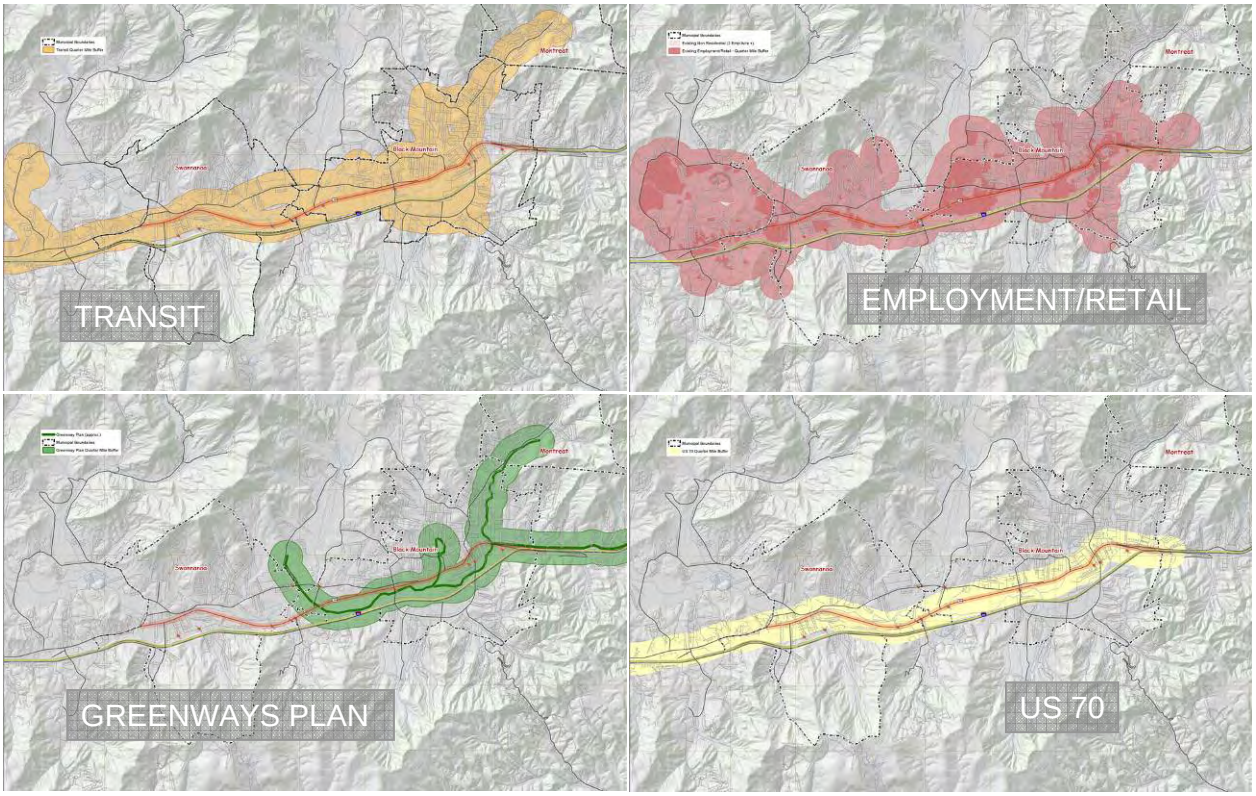
Place Type Allocations

In addition, the characteristics of each of the scenarios varied according to the amount and type of development allocated to each. The following graphs show the amount of acreage assigned to each place type for each of the scenarios:

As the graphs indicate, considerably more land develops as suburban and rural residential development in the Trend Scenario. Both Scenario A and B have little strip commercial development and varying amounts of "center" based (i.e. mixed-use) development, ranging from neighborhood to town centers.

Proximity Indicators

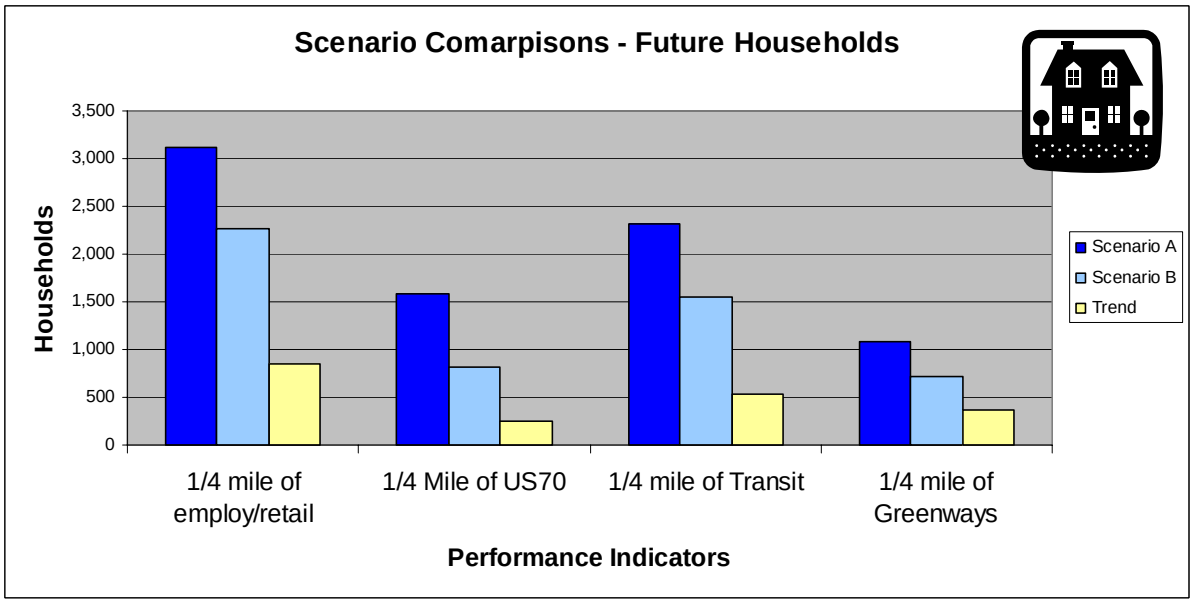
Another way to evaluate the scenarios involved mapping the distance that new development would occur from a set a key elements, such as transit, greenways, and employment/retail centers:



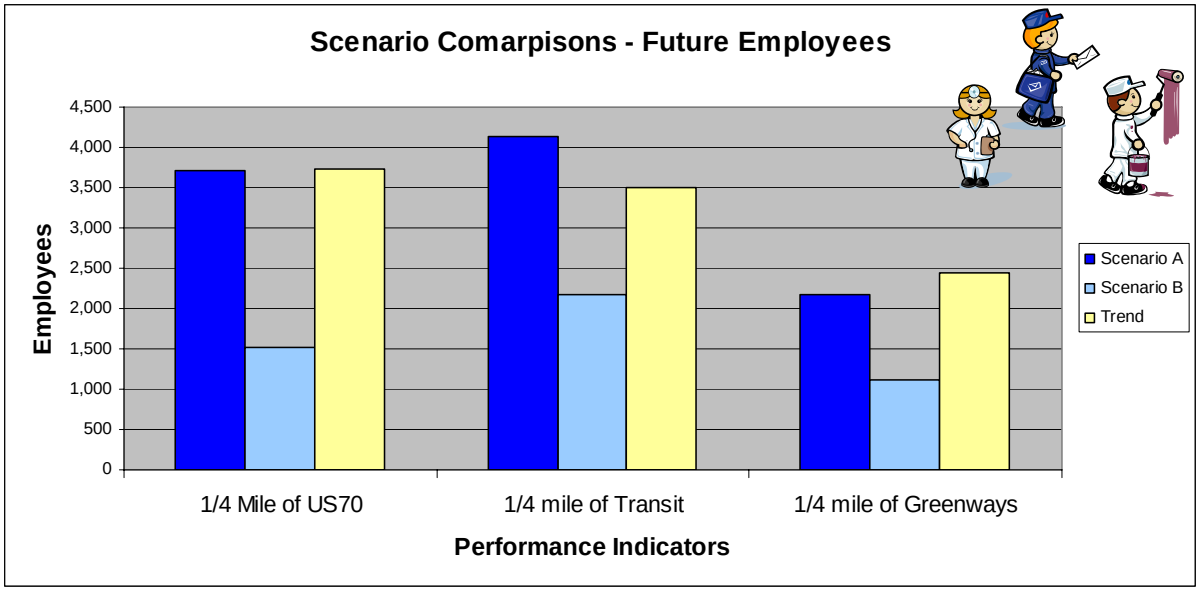
By "buffering" existing and proposed transit service, greenways, and employment/retail centers using a ¼ mile overlay, the future number of households and employees in each scenario that lie within than distance could be compared. The use of ¼ mile buffer reflects the general consensus that such a distance reflects a 5 minute walk.

This has important implications for future travel demand on the US 70 corridor. If a significant proportion of new development is located within a 5 minute walk of transit, greenways, or employment/retail destinations, this allows trips from those households to be non-auto dependent, lessening the demand for capacity on US 70 and other major arterials.

As the following graphs indicate, the number of households and employees located within a ¼ mile of the evaluation factors vary considerably by scenario. This reflects where and what type of development was allocated in each scenario.



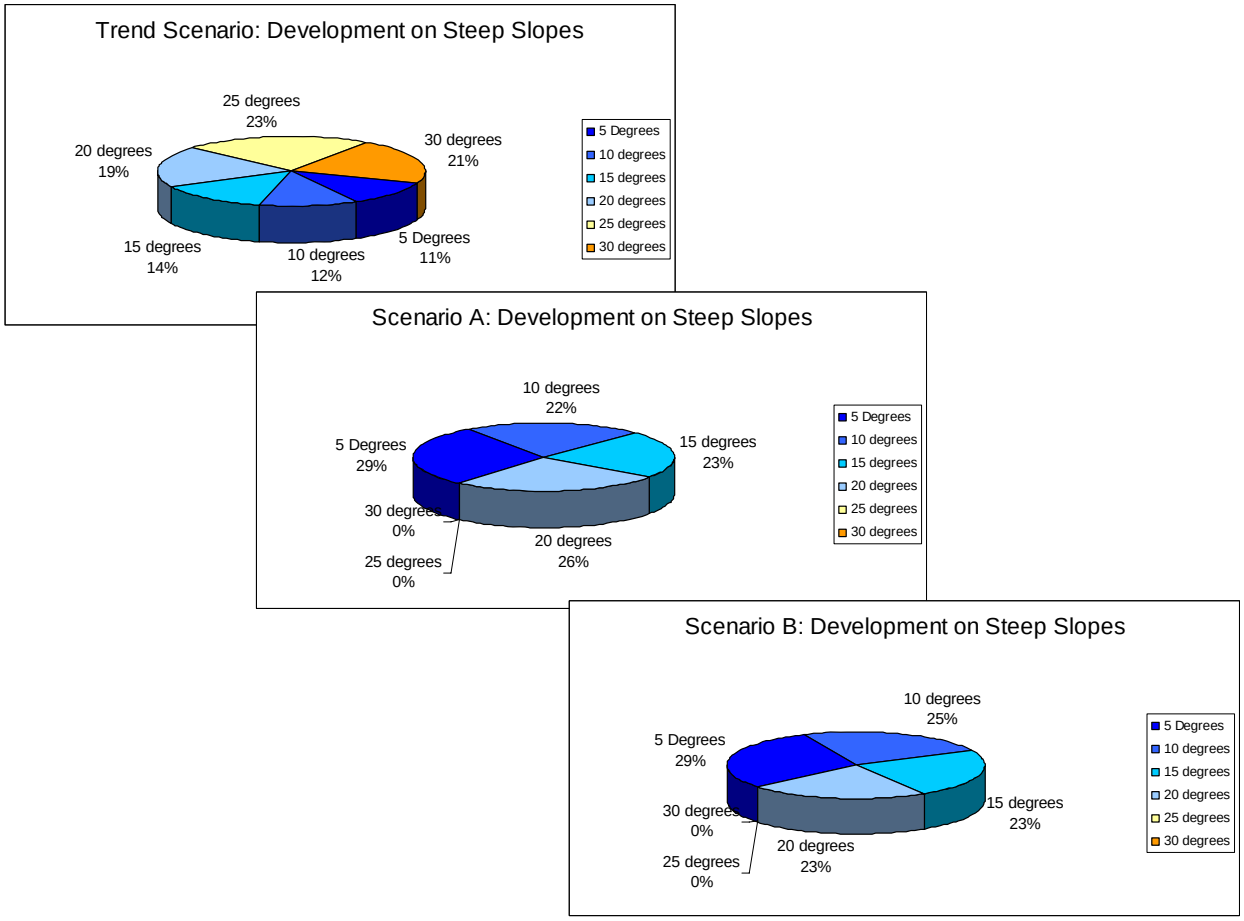
Higher number of households fall with a ¼ mile of the performance indicators in Scenario A vs. Scenario B. Both however, contain considerably greater number of households close to the performance indicators than the trend scenario. This reflects where new residential development was allocated - closer to existing development in Scenarios A + B, more dispersed throughout the valley in the Trend scenario.



Looking at future employees, Scenario A, with its mixed-use centers occurring along the corridor, and the Trend Scenario, with most new employment centers consisting of strip development along the corridor, have a greater number of future employees within the ¼ mile buffer. Scenario B, with new centers dispersed along existing roadways perpendicular to the corridor, has a lower number of future employees within the ¼ mile spacing.

Steep Slope Development

Given the topography that defines the Swannanoa Valley, it is important to measure the amount of new development that occurs on the steep slopes. As the following charts indicate, the trend scenario projects the highest amount of new development to occur on slopes higher than 15%.



Citizen Feedback

These evaluation factors were presented to the public at the second set of workshops, held in the fall of 2007. While elements of each of the scenarios resonated well with different groups, there was a strong preference for the vision articulated in Scenarios A. Participants were given a worksheet that ranked the three scenarios on a scale of 1 to 5 with 1 being least preferred and 5 being most preferred. The majority of participants indicated they preferred the nodal, corridor oriented development of Scenario A, with Scenario B second and almost everyone indicating the least preference for elements of the Trend. The average scores of each scenario are shown here:

Scenario	Trend	A - Parallel Centers	B - Dispersed Centers
Average	1.2	4.5	2.7

Transportation Enhancement Recommendations

After the development and testing of the various land use development scenarios, a set of transportation recommendations were developed that, if implemented, would help to further the goals of the preferred land use scenario. The recommendations that follow provide a "framework" for directing and anticipating future development and redevelopment in the corridor. They are not specific plans for new roads and intersections, but rather conceptual alignments and improvements to the overall transportation network within the corridor.

Transportation Enhancement Recommendations *(High - Low Priority, variable ranges)*			**Issues Addressed or Improvements Made**					
Priority	**Area, Recommendation # and Figure Illustrated**	**Description**	**Capacity**	**Safety**	**Access Mgmt**	**Bike/Ped**	**Livability - aesthetics**	**Cost (low med high) ***
[High priority, short-range]	West Black Mountain (Recommendation Section 3, see Figure 3)	4. Extend and improve sidewalks along US 70.		x		x	x	low
[High priority, short-range]	Lytle Cove Road Area (Recommendation Section 5, see Figure 5)	1. Add a right-turn storage lane on eastbound US 70 west of Lytle Cove Road.		x				low
[High priority, short-range]	Swannanoa (Recommendation Section 7, see Figure 7)	1. Review traffic control at Whitson Ave/Old US 70.	x	x		x		low
[High priority, medium-range]	Blue Ridge Road Area (Recommendation Section 4, see Figure 4)	1. Construct a frontage road along the south side of I-40, connecting Blue Ridge Road to Lytle Cove Road. Especially as part of a larger system of frontage roads, this connection offers several important benefits that cannot be easily achieved otherwise.	x	x		x		high
[High priority, medium-range]	Lytle Cove Road Area (Recommendation Section 5, see Figure 5)	2. Extend Old Lytle Cove Road eastward to reconnect with Lytle Cove Road, providing an alternate route to Swannanoa that does not require travel on US 70.	x	x		x		med
[High priority, medium-range]	Lytle Cove Road Area (Recommendation Section 5, see Figure 5)	3. As part of the proposed frontage road system along the south side of I-40 (see Blue Ridge Road Area recommendation 1) connect Blue Ridge Road and Lytle Cove Road.	x	x		x		high
[High priority, medium-range]	Swannanoa (Recommendation Section 7, see Figure 7)	3. Provide new access on Patton Cove Road between I-40 and US 70.	x	x	x	x		med
[High priority, medium-range]	Swannanoa (Recommendation Section 7, see Figure 7)	2. Improve the intersection of US 70 and Patton Cove Road.	x	x	x			med
[High priority, long-range]	Lytle Cove Road Area (Recommendation Section 5, see Figure 5)	4. Another frontage road segment could be constructed along the south side of I-40, connecting Lytle Cove Road and Dennis Street via Dillingham Panorama Road. (Part of larger project: see Blue Ridge Road Area – Rec. 1, and Swannanoa Area – Rec. 4).	x	x		x		high
[High priority, medium-range/long-	Blue Ridge Road Area (Recommendation Section 4, see Figure 4)	3. Capacity problems at the intersection of Blue Ridge Road and US 70 could be addressed by constructing a grade-separation that would span both the tracks and US 70, with access back to US 70 via a T-intersection.	x	x	x	x		high
[High priority, long-range]	Swannanoa (Recommendation Section 7, see Figure 7)	4. Extend Dillingham Panaview Road east to Lytle Cove Road, as part of the proposed frontage road system along the south side of I-40, creating a parallel connector south of I-40 from Blue Ridge Rd to Jims Branch Rd. (See also Blue Ridge Road Area – Rec 1, and Swannanoa Area – Rec 4).	x	x		x		high
[Medium priority, medium-range]	East Black Mountain (Recommendation Section 1, see Figure 1a)	2. Reduce the cross section of US 70 to be more consistent with existing and anticipated traffic volumes.		x	x	x	x	med
[Medium priority, medium-range]	East Black Mountain (Recommendation Section 1, see Figure 1a)	3. Construct a modern roundabout at the intersection of Padgettown Road, Old US 70, and US 70.	x	x			x	med
[Medium priority, short-range]	East Black Mountain (Recommendation Section 1, see Figure 1a)	1. Construct a modern roundabout at the intersection of Flat Creek Road, Old US 70, and US 70.	x	x			x	med
[Low priority, medium-range]	Lytle Cove Road Area (Recommendation Section 5, see Figure 5)	6. To help manage access, consider adding a planted median to this portion of US 70. This would provide safety, capacity, and aesthetic benefits.	x	x	x		x	med
[Low priority, medium-range]	South Grovemont (Recommendation Section 6, see Figure 6)	2. Consider adding a planted median to this portion of US 70 to help manage access and provide safety, capacity, and aesthetic benefits.	x	x	x		x	med

** Note: Costs are a very generalized estimate of low medium or high. For most, especially the 'development-driven', cost ratings were derived more in terms of "incremental cost to do it this way" vs. cost of doing it "as usual or not at all."*

Transportation Enhancement Recommendations *(Development Driven - Long-Range)*			**Issues Addressed or Improvements Made**					
Priority	**Area, Recommendation # and Figure Illustrated**	**Description**	**Capacity**	**Safety**	**Access Mgmt**	**Bike/Ped**	**Livability - aesthetics**	**Cost (low med high) ***
[Development driven]	Swannanoa (Recommendation Section 7, see Figure 7)	5. Extend and enhance the underlying grid system of streets surrounding the demolished Beacon Manufacturing providing convenient access and circulation for pedestrians, bicycles, and buses, as well as automobiles and trucks.				x	x	med
[Development driven]	Swannanoa (Recommendation Section 7, see Figure 7)	6. Enhance the internal circulation of the existing shopping/light industrial center by introducing a grid-like street network.			x	x	x	med
[Development driven]	Swannanoa (Recommendation Section 7, see Figure 7)	7. Create a grid system by extending and enhancing the existing street network along the western end of Old US 70 between Riverwood Road and Bee Tree Road.			x	x	x	med
[Development-driven]	Lytle Cove Road Area (Recommendation Section 5, see Figure 5)	5. Any development or redevelopment north of US 70 in this vicinity should rely on a single access point aligned with Lytle Cove Road.		x	x			low
[Development-driven]	South Grovemont (Recommendation Section 6, see Figure 6)	1. Development or redevelopment in this vicinity should minimize number of access points to US 70, and optimize their location, include internal connectivity and shared parking, provide a connection between US 70 and Old US 70 (includes a Swannanoa River Crossing) and incorporate bike/pedestrian facilities .		x	x	x	x	med
[Development-driven]	Wilson Area (Recommendation Section 8, see Figure 8)	1. Development or redevelopment in this vicinity should minimize number of access points to US 70, and optimize their location, include internal connectivity and shared parking, provide connectivity between existing streets by extending and adding local street linkages.		x	x	x	x	med
[Long-range, development-driven]	East Black Mountain (Recommendation Section 1, see Figures 1b, and 1c)	4. Extending the alignments of Pearl and Ruby Avenues or Old US 70, and constructing properly-spaced perpendicular streets (parallel to Kerlee Heights and McCoy Cove Roads, or to Padgettown Road, see elements presented in Figures 1b and 1c).						med
[Long-range, development-driven]	Central Black Mountain (Recommendation Section 2, see Figure 2)	1. Provide access by a connection between Vance Avenue and Flat Creek Road or Padgettown Road, possibly by spanning both the railroad and the Swannanoa River with one or two structures.	x	x	x	x		high
[Long-range, development-driven]	West Black Mountain (Recommendation Section 3, see Figure 3)	1. Railroad overpass at the intersection of Goldmont Street and US 70	x	x		x		high
[Long-range, development-driven]	West Black Mountain (Recommendation Section 3, see Figure 3)	2. Create a more complete grid system that would provide alternative vehicular access and more convenient pedestrian/bicycle routes.		x	x	x		med
[Long-range, development-driven]	West Black Mountain (Recommendation Section 3, see Figure 3)	3. Internal connectivity and shared parking would reduce traffic and conflicts on US 70, improving both capacity and safety. Bicycle and pedestrian routes could also benefit.	x	x	x	x		med
[Long-range, development-driven]	Blue Ridge Road Area (Recommendation Section 4, see Figure 4)	2. Modify Old US 70 to become the main access route for commercial development fronting the north side of US 70.	x	x	x			med
[Long-range, development-driven]	Blue Ridge Road Area (Recommendation Section 4, see Figure 4)	4. Extend and enhance the grid network that was originally established north of Old US 70.		x	x	x		med
[Long-range, development-driven]	Blue Ridge Road Area (Recommendation Section 4, see Figure 4)	5. Provide internal access and circulation to any future development or redevelopment between I-40 and US 70.			x	x	x	med
[Long-range, development-driven]	Central Black Mountain (Recommendation Section 2, see Figure 2)	2. Vance Avenue could be improved and extended westward, if warranted by future development, including bike and pedestrian facilities.	x	x		x		med

** Note: Costs are a very generalized estimate of low medium or high. For most, especially the 'development-driven', cost ratings were derived more in terms of "incremental cost to do it this way" vs. cost of doing it "as usual or not at all."*

Recommendation 1: East Black Mountain *(Figures 1a, 1b, and 1c)*

The predominant transportation feature in this area is US 70 as it transitions from a pair of high-speed interstate freeway ramps, through a four-lane median-divided section, and into a 2-lane urban facility with center turn lane. A frontage road approximately 50 feet north of US 70 (Old US 70) provides access at Padgettown Road and at Flat Creek Rd.

While this configuration has functioned acceptably well for many years, it is not a desirable design, and will not serve the future needs of this growing community as well as some alternatives. Analysis of forecast traffic volumes indicates that the STOP-controlled State Street (Old US 70) intersections at Flat Creek and Padgettown Roads will be operating at LOS E or F by 2030. While there have been no serious crash problems associated with these intersections and their access to US 70, their design does have inherent safety problems which could be exacerbated by increasing traffic volumes. The abrupt transition from a four-lane, high-speed highway to a much slower, three-lane urban street also raises safety concerns which could worsen as traffic grows. Finally, the six lanes of US 70 and Old US 70 provide far more capacity than is needed in this corridor, based on analysis of 2030 forecasts. The roadways themselves (not including right-of-way) cut a 120-foot to 200-foot wide swath through a third of a mile of some very desirable real estate, creating a less-than-attractive gateway to Black Mountain in the process. A more appropriate design could provide an entrance that is safer and far more appealing, while freeing up a significant amount of land for development, landscaping, and/or bicycle and pedestrian paths.

Recommendations

Construct a modern roundabout at the intersection of Flat Creek Road, Old US 70, and US 70. This would provide a clear transition from the higher-speed, multilane highway to a slower, more urbanized environment, and would better handle the variety of turning movements at the awkward intersection of Flat Creek Road and Old US 70. A roundabout would encourage slower, steadier speeds, while reducing stop-and-go traffic. It would also virtually eliminate the potential for angle collisions, which tend to be the most severe type at stop-controlled intersections. Capacity analysis suggests that a single-lane roundabout would provide an acceptable level-of-service through 2030, even with substantial traffic growth. Some narrowing of US 70 (to a single lane in each direction) would be required east of the proposed roundabout. [Medium priority, medium-range]

Reduce the cross section of US 70 to be more consistent with existing and anticipated traffic volumes. A two-lane facility with a planted median would create an attractive gateway to Black Mountain, as well as contributing to access management. This cross section should provide adequate capacity for future traffic needs, especially with roundabouts maintaining steady traffic flows. Nevertheless, enough right-of-way should be preserved to provide for both future widening and bicycle/pedestrian facilities. This could be achieved by shifting the alignment within the available right-of-way, either to the center, or possibly to the southern edge. The latter alternative could free up more useable, contiguous land along the northern edge, especially if Old US 70 is eliminated or re-aligned. Although this narrowing could be achieved without roundabouts, it appears that the combination would be effective; without them, somewhat

complicated intersections with turn lanes would be required, and higher side-street delay, queuing, and crash severity could be expected. [Medium priority, medium-range]

Construct a modern roundabout at the intersection of Padgettown Road, Old US 70, and US 70. The justification for this project is consistent with the above discussion of the roundabout at Flat Creek Road. Although all three of these projects could be implemented concurrently, the recommended priority appears to be most appropriate for phased construction. [Medium priority, medium-range]

Looking at the existing street network and property plats north of US 70, it is clear that a grid system was originally envisioned, and could still be realized should redevelopment occur. By extending the alignments of Pearl and Ruby Avenues or Old US 70, and constructing properly-spaced perpendicular streets (parallel to Kerlee Heights and McCoy Cove Roads, or to Padgettown Road), it would be possible with minimal disruption to create a walkable grid of streets serving blocks as short as 400'on a side. This area could develop into an important transit stop, as well. Various elements of such a concept are presented in Figures 1b and 1c. [Long-range, development-driven]

Figure 1a: Roundabouts – East Black Mountain

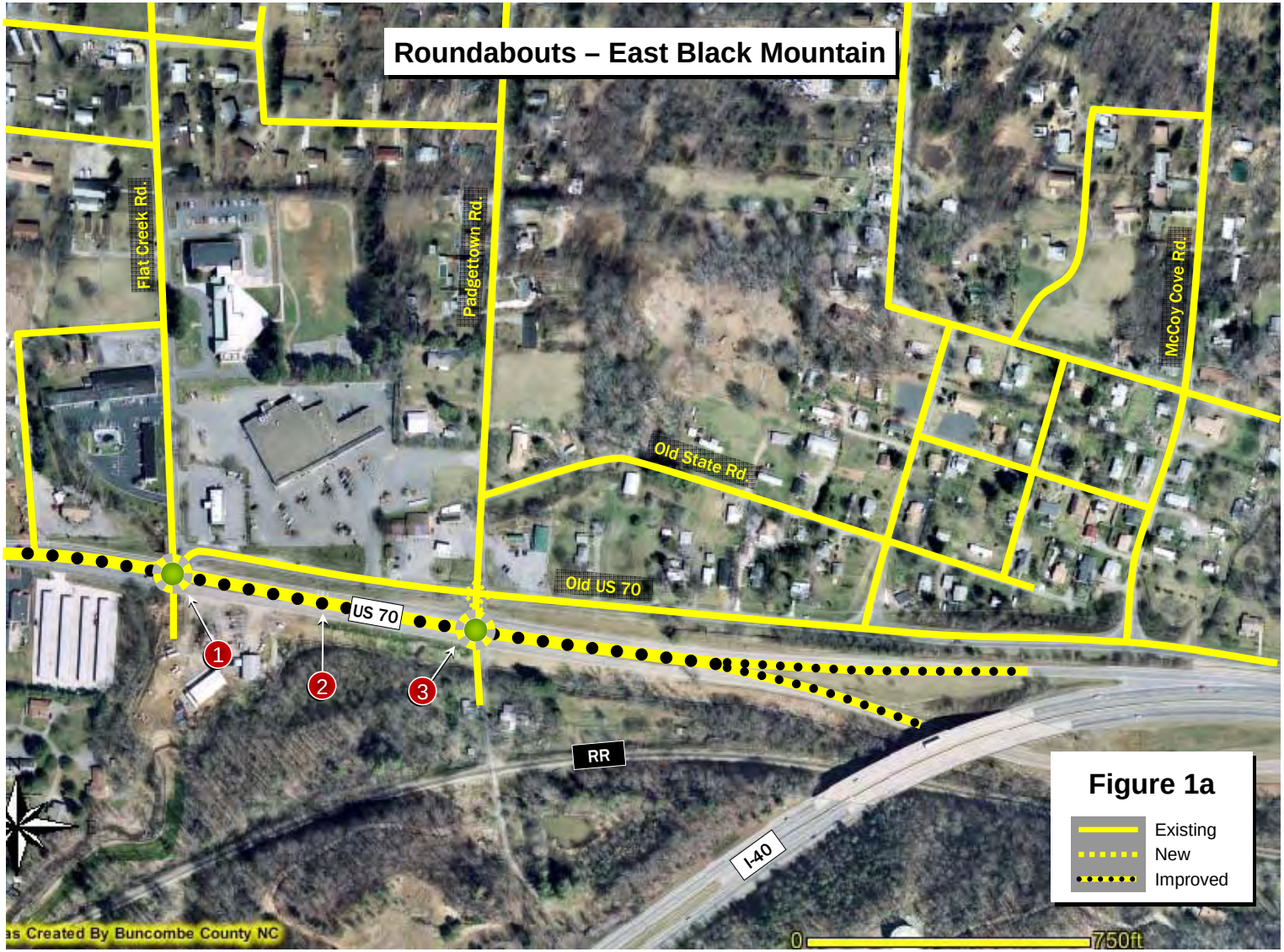


Figure 1b: Conceptual Road Plan – East Black Mountain

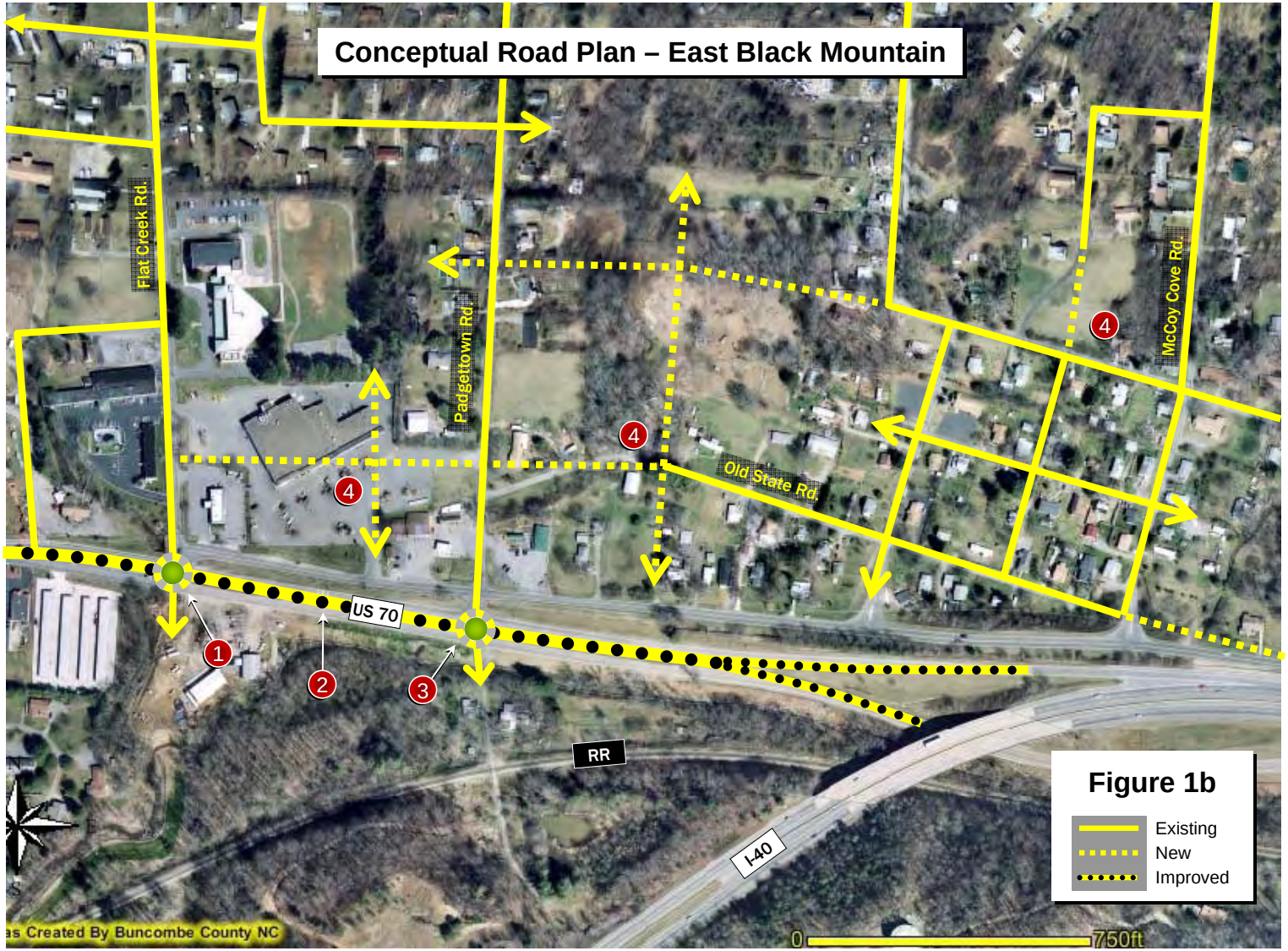
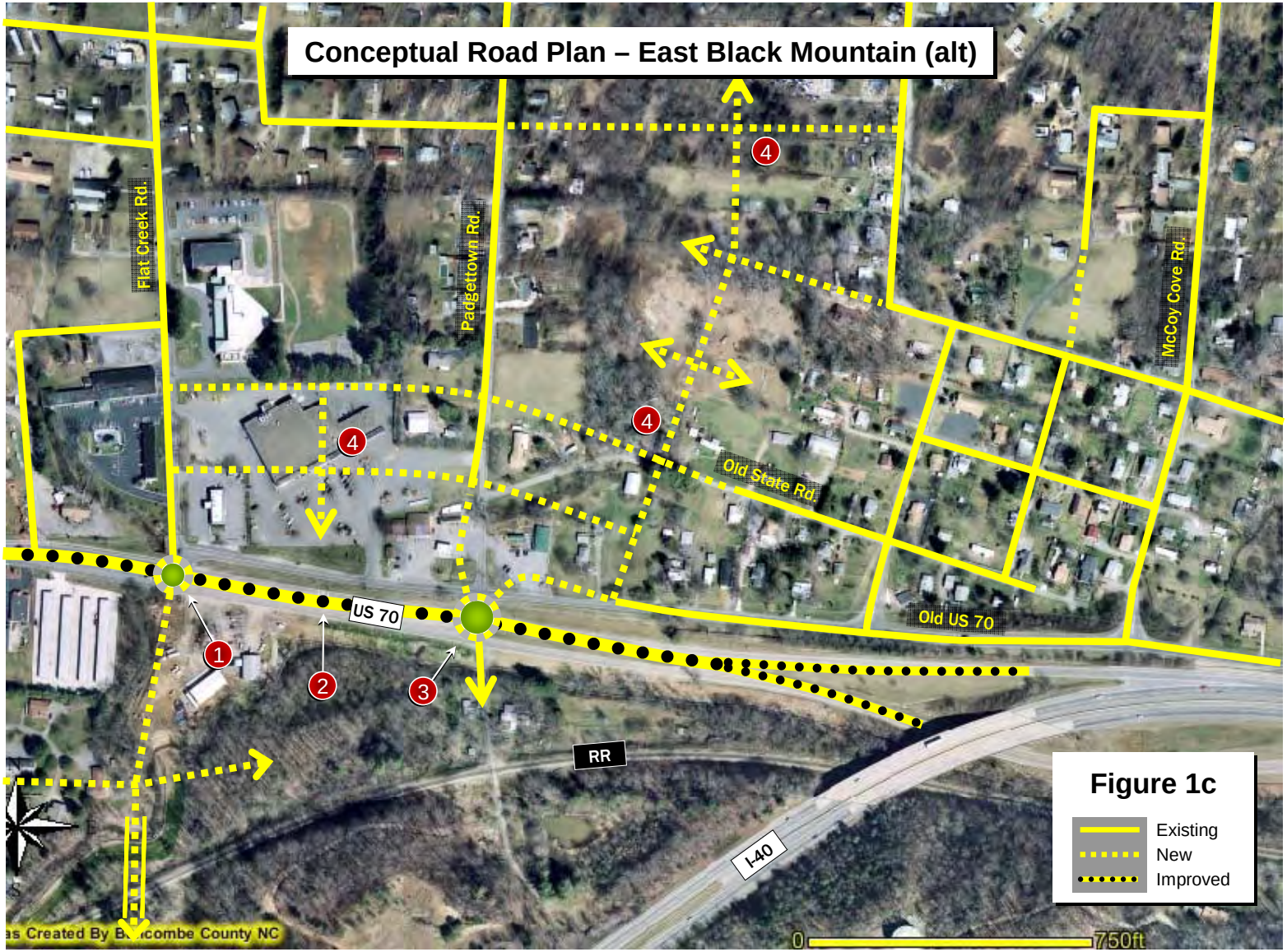


Figure 1c: Conceptual Road Plan – East Black Mountain (Alt)



Recommendation 2: Central Black Mountain *(Figure 2)*

US 70 in this area transitions through several cross-sections. East of NC 9, the road consists primarily of two travel lanes with a two-way left-turn lane, sidewalks, and no on-street parking. From east of NC 9 through Church Street, there are two travel lanes plus on-street parking, directional left-turn lanes, and sidewalks. West of Church Street, the road transitions to a four-lane section, with no dedicated turn lanes. Sidewalk extends only along the north side of the street.

The center of Black Mountain is mostly built out, with little opportunity for additional or expanded road capacity. However, because traffic on NC 9 and US 70 will continue to grow, congestion will get worse, especially at the intersection of these two facilities. This intersection already operates at LOS D in the PM hour, and it will drop to "F" well before 2030. Given the proximity of existing buildings, widening is not an option, and there are no obvious alternative routes, either existing or potential. Although other intersections in the area do not appear to have capacity problems quite this severe, they experience significant congestion, and the queuing and delays resulting from a LOS F at US 70 and NC 9 will adversely affect other downtown intersections. The most feasible solution is to attempt to manage this congestion as much as possible, through state-of-the-art traffic signal systems; travel demand management programs; compatible parking policies; truck restrictions; and support and promotion of alternative modes.

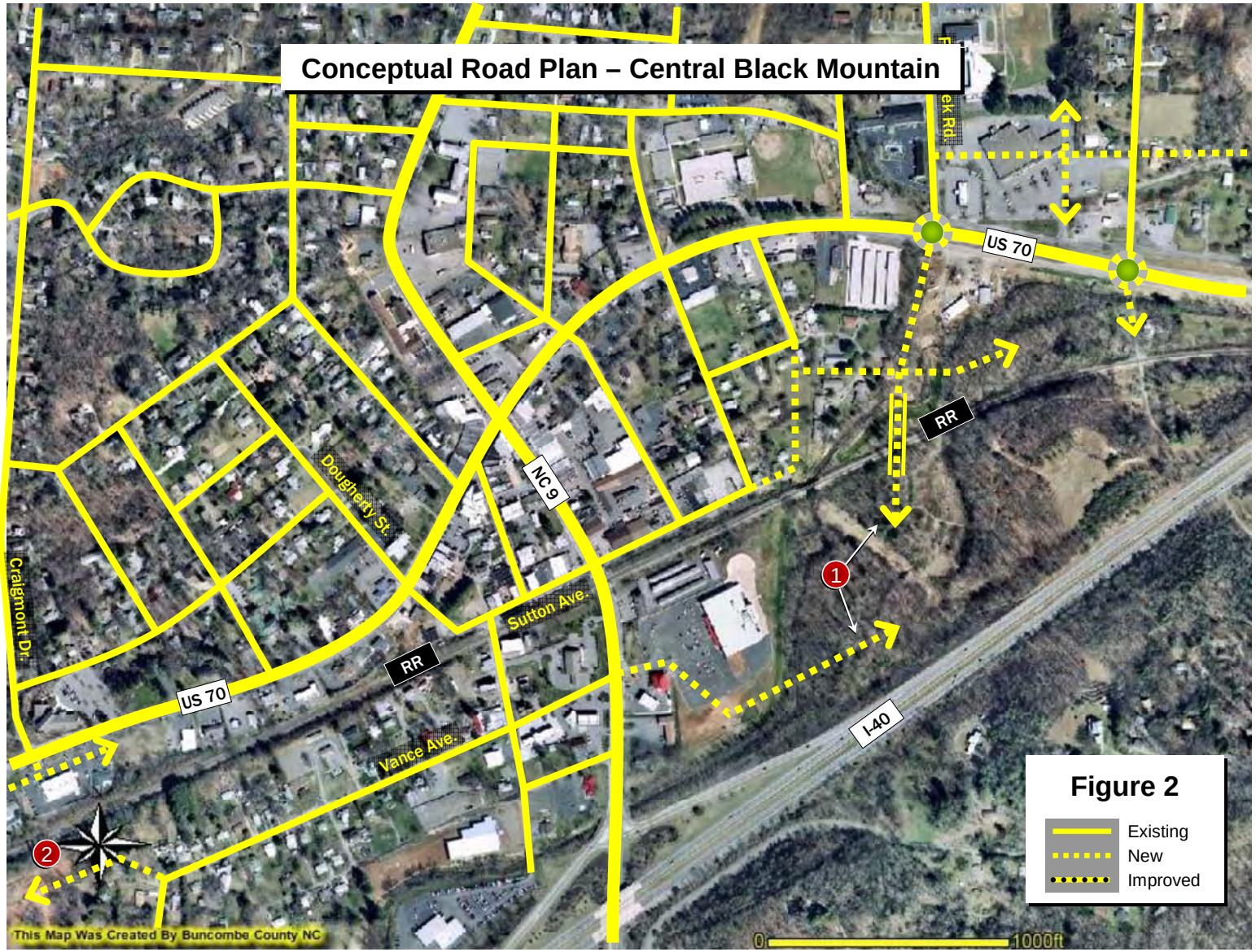
Several potential projects identified in two fringe areas of downtown are illustrated in Figure 2, and described below.

Recommendations

Should development occur in the area southeast of downtown (behind the shopping center, between I-40 and US 70), access could be provided by a connection between Vance Avenue and Flat Creek Road or Padgettown Road. Given the topography in this location, it may be feasible to span both the railroad and the Swannanoa River with one or two structures. This would add a much-needed crossing of both these travel barriers, while reducing traffic through downtown. Pedestrians and bicyclists would also benefit from a properly designed bridge at this location. Under this scenario, the proposed road would not be a bypass, but would primarily serve traffic generated by adjacent development. An effective bypass would require a more direct alignment, which is not possible without eliminating the existing shopping center. This location could also serve as an attractive transit stop, depending on the mix of land use and urban design features. [Long-range, development-driven]

Vance Avenue could be improved and extended westward, if warranted by future development. Bicycle and pedestrian access should be considered with any such extension. [Long-range, development-driven]

Figure 2: Conceptual Road Plan – Central Black Mountain



Recommendation 3: West Black Mountain *(Figure 3)*

West of Dougherty Street, US 70 descends a long grade towards Blue Ridge Road, transitioning from a four-lane section to five-lane section with two-way center turn lane. This is also the area where the railroad tracks begin to closely parallel US 70, limiting development and driveways on its southern side. The development that is present on this side of US 70 is mostly stand-alone commercial. To the north is mainly residential development, with some commercial and institutional uses fronting US 70 (see Figure 3).

Recommendations

The topography at the intersection of Goldmont Street and US 70 is one of the few locations along the US 70 favorable to the construction of a railroad overpass. This concept has been studied previously, and should be considered if warranted by development south of the railroad in this vicinity. Such a grade-separated crossing could also benefit pedestrian and bicycle trips. [Long-range, development-driven]

The existing street network could be connected to create a more complete grid system that would provide alternative vehicular access and more convenient pedestrian/bicycle routes. [Long-range, development-driven]

Internal connectivity and shared parking would reduce traffic and conflicts on US 70, improving both capacity and safety. Bicycle and pedestrian routes could also benefit. [Long-range, development-driven]

Extend and improve sidewalks along US 70. [High priority, short-range].

Figure 3: Conceptual Road Plan – West Black Mountain

Recommendation 4: Blue Ridge Road Area *(Figure 4)*

This segment of US 70 has two travel lanes in each direction, plus a two-way center left-turn lane. It is a relatively flat, straight, high-speed suburban-type facility. Railroad tracks flank the south side of the road, limiting access on this side. The north side of the street is typified by stand-alone "strip" development, with each establishment having at least one driveway. There are no sidewalks.

The main traffic problem is at the Blue Ridge Road intersection, where the adjacent at-grade railroad crossing complicates traffic signal operation and increases delay. Even ignoring the effects of train blockages, increasing traffic volumes will cause the LOS to deteriorate to "E" before 2030. Furthermore, there has been considerable recent interest in developing/redeveloping the land between US 70 and I-40 on either side of Blue Ridge Road. Since current policies prevent adding new at-grade railroad crossings, any such development would dramatically increase traffic volumes on Blue Ridge Road, especially at the US 70 intersection.

Recommendations

Construct a frontage road along the south side of I-40, connecting Blue Ridge Road to Lytle Cove Road (see Lytle Cove Road Area – Recommendation 4). Especially as part of a larger system of frontage roads, this connection offers several important benefits that cannot be easily achieved otherwise:

- Decreases the volume of traffic needing to use US 70 for local trips. This helps preserve the existing capacity of US 70, especially at key intersections, since two turning conflicts are removed for each trip. Reduced traffic congestion may delay or eliminate the need for major capacity-increasing projects along US 70.
- Decreases the volume of traffic needing to use NC 9, Lytle Cove Road, Blue Ridge Road, and Patton Cove Road between I-40 and US 70. This helps preserve the existing capacity of these roads, especially at critical intersections and interchanges. Reduced traffic congestion may delay or eliminate the need for major capacity-increasing projects along these facilities.
- Provides more direct routing, which lowers total vehicle-miles of travel, reducing fuel consumption and tailpipe emissions.
- Improves access to communities south of I-40. Providing multiple access/egress routes for these communities improves emergency access and greatly reduces the possibility of an area being cut off by a stopped train, vehicle crash, natural disaster, or construction project.
- Reduces traffic across at-grade railroad crossings, thereby lowering the exposure of trains and vehicles to potential crashes.

The proposed frontage roads can be designed as two-lane facilities, with turn lanes as needed, and posted speeds of 30 – 45 mph. Accommodation of bicycle and pedestrian trips (whether on-road or off-road) should be an integral part of the design and construction of these connectors, since these linkages are also absent south of I-40. [High priority, medium-range]

Modify Old US 70 to become the main access route for commercial development fronting the north side of US 70. This would involve reducing/eliminating driveways; providing space for

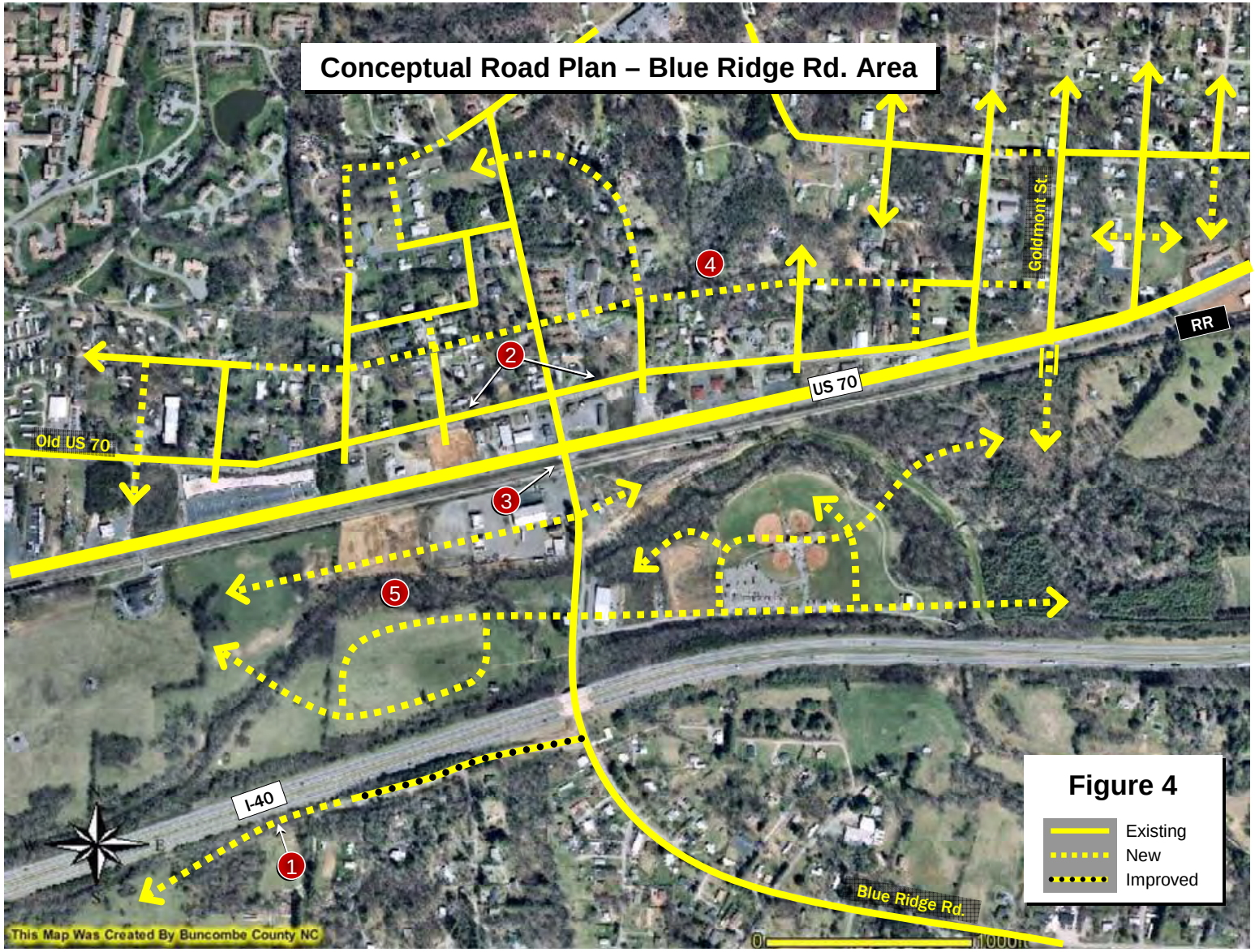
pedestrian activity; creating shared parking; and interconnecting driveways. With such a redesign, this location has the potential to support an attractive transit stop. It may also become feasible (and desirable) to add a planted median along portions of this segment of US 70, benefiting capacity, safety, pedestrians, and overall appearance. [Long-range, development-driven]

Capacity problems at the intersection of Blue Ridge Road and US 70 are compounded by its proximity to a busy at-grade railroad crossing. Projected growth in both railroad and highway traffic will increase both delays and crash potential. Feasibility studies have been conducted for constructing a grade-separation that would span both the tracks and US 70, with access back to US 70 via a T-intersection. Such a design could also promote bicycle and pedestrian access and safety. [Medium-range/long-range]

Extend and enhance the grid network that was originally established north of Old US 70. Properly designed and constructed, these links would increase connectivity and also improve walking and biking opportunities. [Long-range, development-driven]

Provide internal access and circulation to any future development or redevelopment between I-40 and US 70. Given the constraints of the Swannanoa River and its floodplains, the rail line, historic properties, and parkland, a grid system of streets is not feasible on either side of Blue Ridge Road. Careful coordination of land use and transportation will be required to provide suitable access to the limited amount of buildable land, while minimizing or avoiding stream and railroad crossings. Access will probably be limited to two connections at Blue Ridge Road, one on either side of the Swannanoa River. Any development in this vicinity should preserve and advance important east-west pedestrian and bicycle linkages along the corridor. [Long-range, development-driven]

Figure 4: Conceptual Road Plan – Blue Ridge Road Area



Recommendation 5: Lytle Cove Road Area *(Figure 5)*

US 70 crosses the Swannanoa River between Lytle Cove and Grovestone Roads. The associated floodplains and several ponds constrain development in this vicinity. The railroad tracks closely parallel US 70 through this area, complicating traffic control and access at Lytle Cove Road. Since most of the development in this vicinity is industrial, train traffic is significant, and long trains can block access for extended periods during loading and unloading. Truck traffic is also heavy, due again to the nature of development in this area. Figure 5 presents several conceptual options for addressing transportation and development issues near Lytle Cove Road.

Recommendations

Add a right-turn storage lane on eastbound US 70 west of Lytle Cove Road. This project eliminates the problem of right-turning traffic sitting in the outside travel lane when a train blocks the Lytle Cove Road railroad crossing. [High priority, short-range]

Extend Old Lytle Cove Road eastward to reconnect with Lytle Cove Road, providing an alternate route to Swannanoa that does not require travel on US 70. [High priority, medium-range]

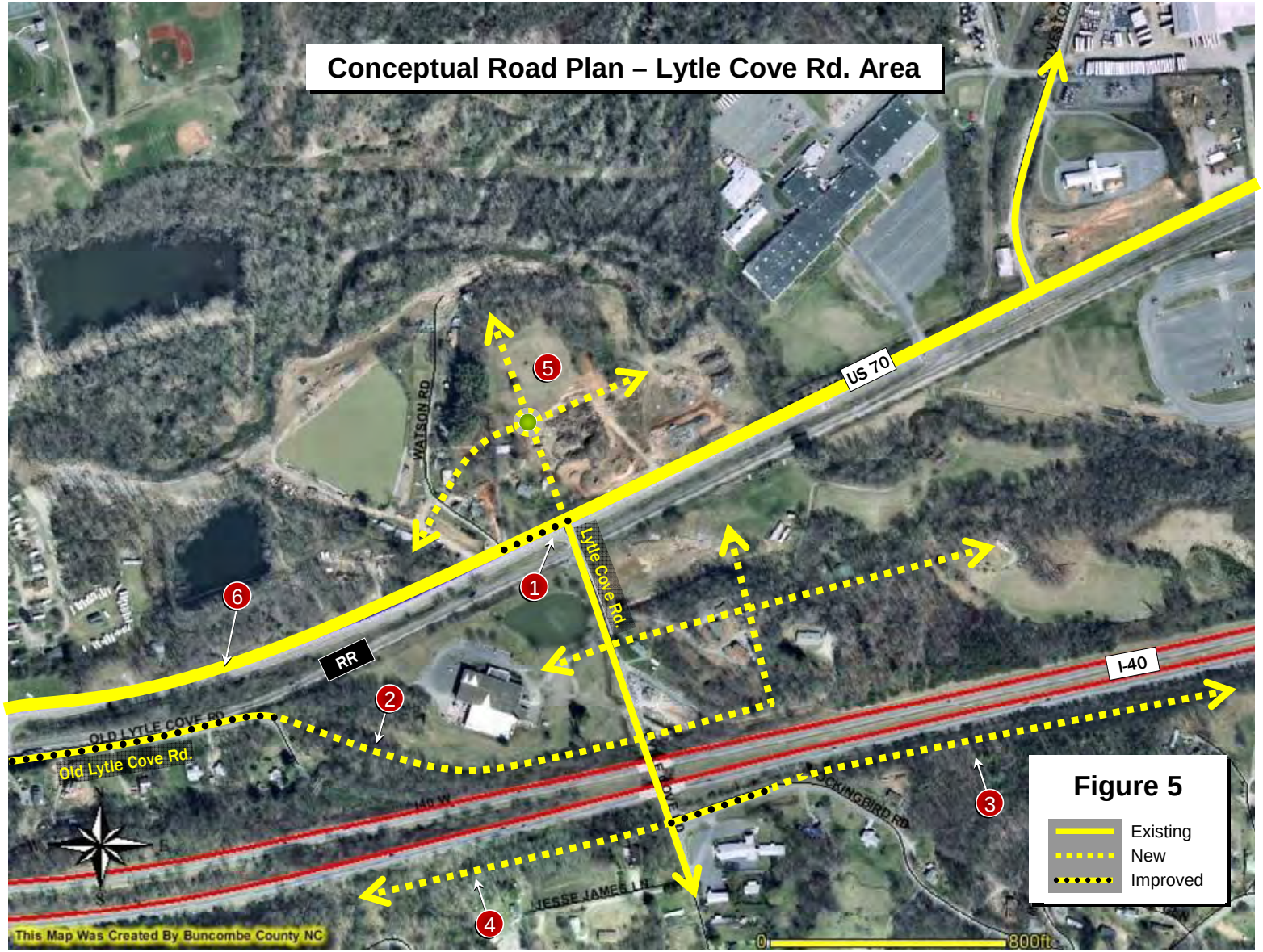
As part of the proposed frontage road system along the south side of I-40, connect Blue Ridge Road and Lytle Cove Road (see Blue Ridge Road Area – Recommendation 1). [High priority, medium-range]

Another frontage road segment could be constructed along the south side of I-40, connecting Lytle Cove Road and Dennis Street via Dillingham Panorama Road. This would be part of a larger project ultimately linking Blue Ridge Road with Patton Cove Road (see Blue Ridge Road Area – Recommendation 1, and Swannanoa Area – Recommendation 4). [High priority, long-range]

Any development or redevelopment north of US 70 in this vicinity should rely on a single access point aligned with Lytle Cove Road. [Development-driven]

To help manage access, consider adding a planted median to this portion of US 70. This would provide safety, capacity, and aesthetic benefits. [Low priority, medium-range]

Figure 5: Conceptual Road Plan – Lytle Cove Rd. Area



Recommendation 6: South Grovemont *(Figure 6)*

This portion of the US 70 corridor includes not only the Swannanoa River, but several ponds. Much of the area shown in Figure 6 between US 70 and Old US 70 is in a flood plain. To the south, the distance between US 70 and I-40 is as little as 500 feet, and includes both railroad tracks and Old Lytle Cove Road. These constraints help explain the lack of development along this segment of US 70, and suggest that potential for future development is limited. Figure 6 presents one possible concept for accessing land that is developable, or which could have uses compatible with a floodplain.

Recommendations

Development or redevelopment in this vicinity should achieve the objectives listed below. [Development-driven]

- Minimize number of access points to US 70, and optimize their location.
- Include internal connectivity and shared parking.
- Provide a connection between US 70 and Old US 70 (includes a Swannanoa River Crossing).
- Incorporate bike and pedestrian facilities and/or design features.

To help manage access, consider adding a planted median to this portion of US 70. This would provide safety, capacity, and aesthetic benefits. [Low priority, medium-range]

Figure 6: Conceptual Road Plan – South Grovemont

Recommendation 7: Swannanoa *(Figure 7)*

This five-lane segment of US 70 carries the highest traffic volumes of the entire corridor, both currently and in the future. It is also the location of the highest concentration of pedestrian injuries and fatalities.

Options for improving US 70 in this vicinity are very limited. Along most of the alignment, there is only a narrow strip of land between the northern edge of the roadway and the Swannanoa River. Most of this land west of Whitson Avenue is occupied by a continuous series of commercial establishments, each with at least one driveway. The shallowness of these lots makes shared access and parking impractical, so there is little that can be done to improve the situation while still maintaining the viability of businesses located there. These establishments preclude any widening of US 70 to the north, whether for through lanes, turn lanes or even a sidewalk. In addition, this riverside corridor would otherwise be an ideal location for a greenway and/or linear park.

The key feature of this area is Beacon Village and the vacant site of the Beacon Manufacturing plant. Originally laid out as a textile mill village with small lots and narrow streets in a modified grid pattern, its scale and arrangement are consistent with the accepted principles for designing pedestrian (and transit) oriented communities. Should this site redevelop as an appropriately planned mixed-use center, it could provide employment, housing, shopping, services, and other needs without being as auto-dependant as much of the corridor's existing development. Nevertheless, careful consideration must be given to providing a safe and efficient network for automobile and truck traffic.

Also significant are the interstate, railroad, and river crossings in this area:

- In addition to providing an interstate access/crossing point, Patton Cove Road includes one of the few grade-separated railroad crossings along the entire corridor.
- Dennis Street passes under I-40, one of the few non-interchange interstate grade-separations in the whole study area. Dennis Street's at-grade railroad crossing is the only such public crossing for some distance.
- The Swannanoa River is a significant barrier in this vicinity that can only be crossed via bridges on Whitson Avenue or Riverwood Road.
-

Figure 7 presents a number of concepts for addressing these and other issues.

Recommendations

Review traffic control at Whitson Ave/Old US 70. During peak periods, traffic frequently backs up between Old US 70 and the traffic signal on US 70, due to limited storage space on the bridge. The identification of an acceptable solution requires analysis beyond the scope of this study, but such a solution could involve changing the number or orientation of STOP or YIELD conditions; restricting certain movements; or adding an interconnected traffic signal at Old US 70 and Whitson Ave. A properly coordinated traffic signal would eliminate the backup of vehicles on the bridge that can block traffic movements. [High priority, short-range]
Improve the intersection of US 70 and Patton Cove Road. Traffic forecasts for this intersection indicate that the level-of-service will drop to "F" well before 2030, due in large part to heavy left-

turn volumes. In fact, by 2030 the highest volume movements during the PM peak will not be through movements on US 70, but westbound left turns and northbound rights. Adding a second westbound left turn lane improves the level-of-service, but only to "E." Eliminating the gas station driveway that forms the north leg of the intersection appears to be the most feasible way to further improve the level-of-service of this intersection. Beyond additional signs, markings, and signals, no reasonable pedestrian safety improvements could be identified for this location. The best solution appears to be relocating pedestrian and bicycle routes to safer locations, whether off-street or along another street (which, at present, does not exist – see Recommendation #3 in this section). [High priority, medium-range]

Provide new access on Patton Cove Road between I-40 and US 70. This connection would allow traffic from I-40 and the developing area to the south to access the shopping center or future Beacon Village development without having to go through the Patton Cove Road/US 70 intersection. This is a significant benefit; shifting fewer than 2,000 such trips onto this connector could improve operations at the Patton Cove Road/US 70 intersection by one service level. Additionally, this connection could provide a much safer location for pedestrian and bicycle traffic to cross Patton Cove Road, and could also be an attractive route for any transit service to this area. [High priority, medium-range]

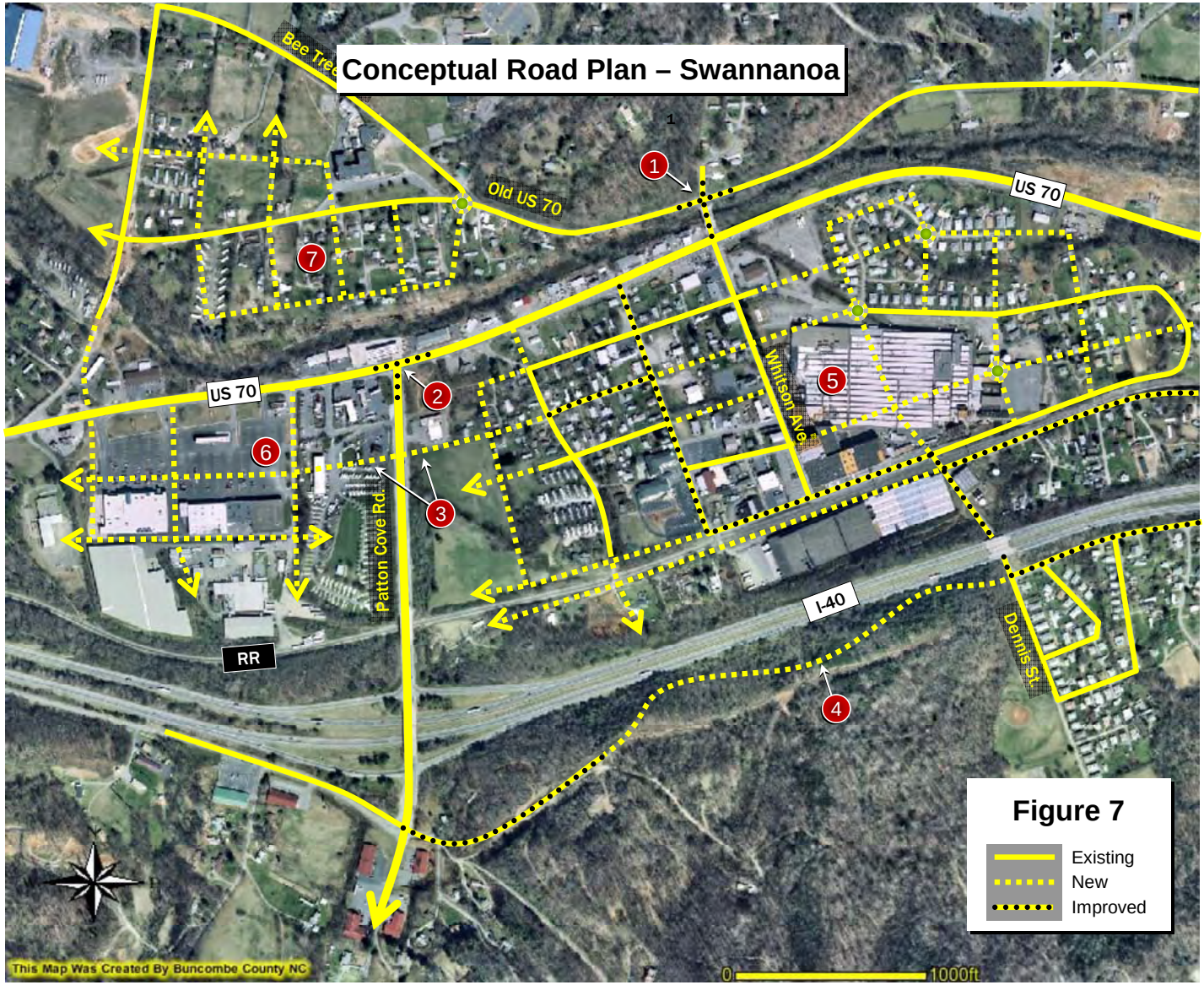
As part of the proposed frontage road system along the south side of I-40, extend Dillingham Panaview Road east to Lytle Cove Road, ultimately creating a parallel connector south of I-40 from Blue Ridge Road all the way to Jims Branch Road. (see Blue Ridge Road Area – Recommendation 1, and Lytle Cove Road Area – Recommendation 4). [High priority, long-range]

The original layout of Beacon Village (the mill village at the heart of present day Swannanoa) lends itself to redevelopment as a relatively dense, pedestrian-oriented, mixed-use urban center. The underlying grid system of streets surrounding the demolished Beacon Manufacturing plant could be extended and enhanced, providing convenient access and circulation for pedestrians, bicycles, and buses, as well as automobiles and trucks. Such a redeveloped village could also be an important transit center. [Development driven]

Enhance the internal circulation of the existing shopping/light industrial center by introducing a grid-like street network. This would probably be most feasible if re-developed as a "lifestyle retail center." Such a design would foster pedestrian travel, and could support significant transit service. [Development driven]

Create a grid system by extending and enhancing the existing street network along the western end of Old US 70 between Riverwood Road and Bee Tree Road. Where feasible, shared access and parking should be used to minimize driveways and reduce traffic conflicts. Bicycle, pedestrian, and transit accessibility should be emphasized. [Development driven]

Figure 7: Conceptual Road Plan - Swannanoa



Recommendation 8: Wilson Area *(Figure 8)*

This portion of US 70 is a five-lane section passing through a mixture of commercial, industrial, and residential development. The Swannanoa River is not a factor in this locale, but the area between US 70 and I-40 is narrow, and includes the railroad and several large industrial sites. Buckeye Cove Road provides the only public railroad crossing (at-grade), as well as a grade-separated route across I-40. Buckeye Cove Road also connects to an existing frontage road (Buckeye Access Rd.) along the south side of I-40, providing a link between Patton Cove and Jim's Branch Road.

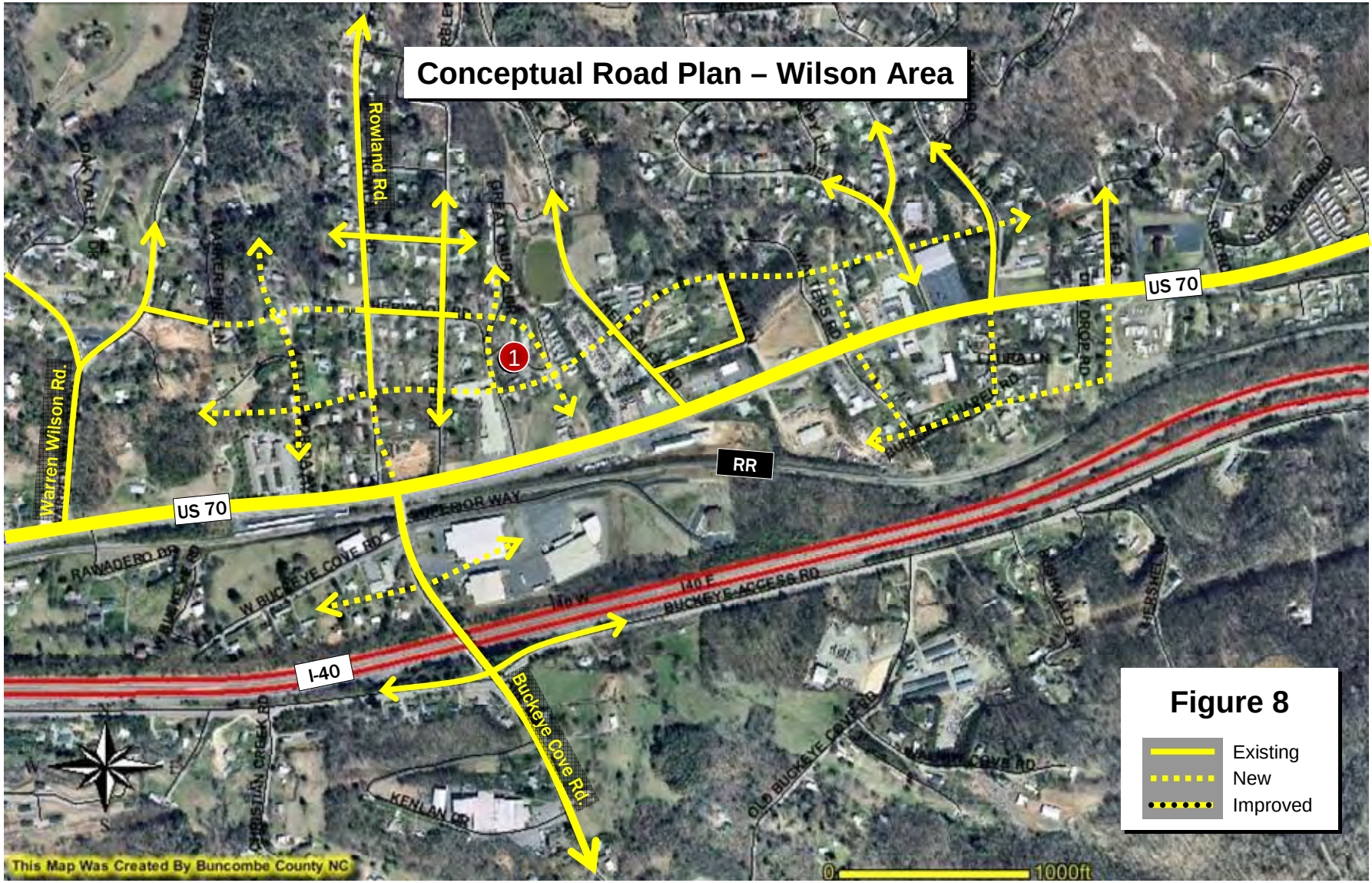
The most pressing need along this segment of US 70 is maintaining and improving access management. Figure 8 depicts some potential extensions and connections of the existing street network. Although only conceptual, these links could reduce traffic (and associated conflicts) on US 70, while also promoting travel on foot or by bicycle.

Recommendations

1. Development or redevelopment in this vicinity should achieve the objectives listed below. [Development-driven]

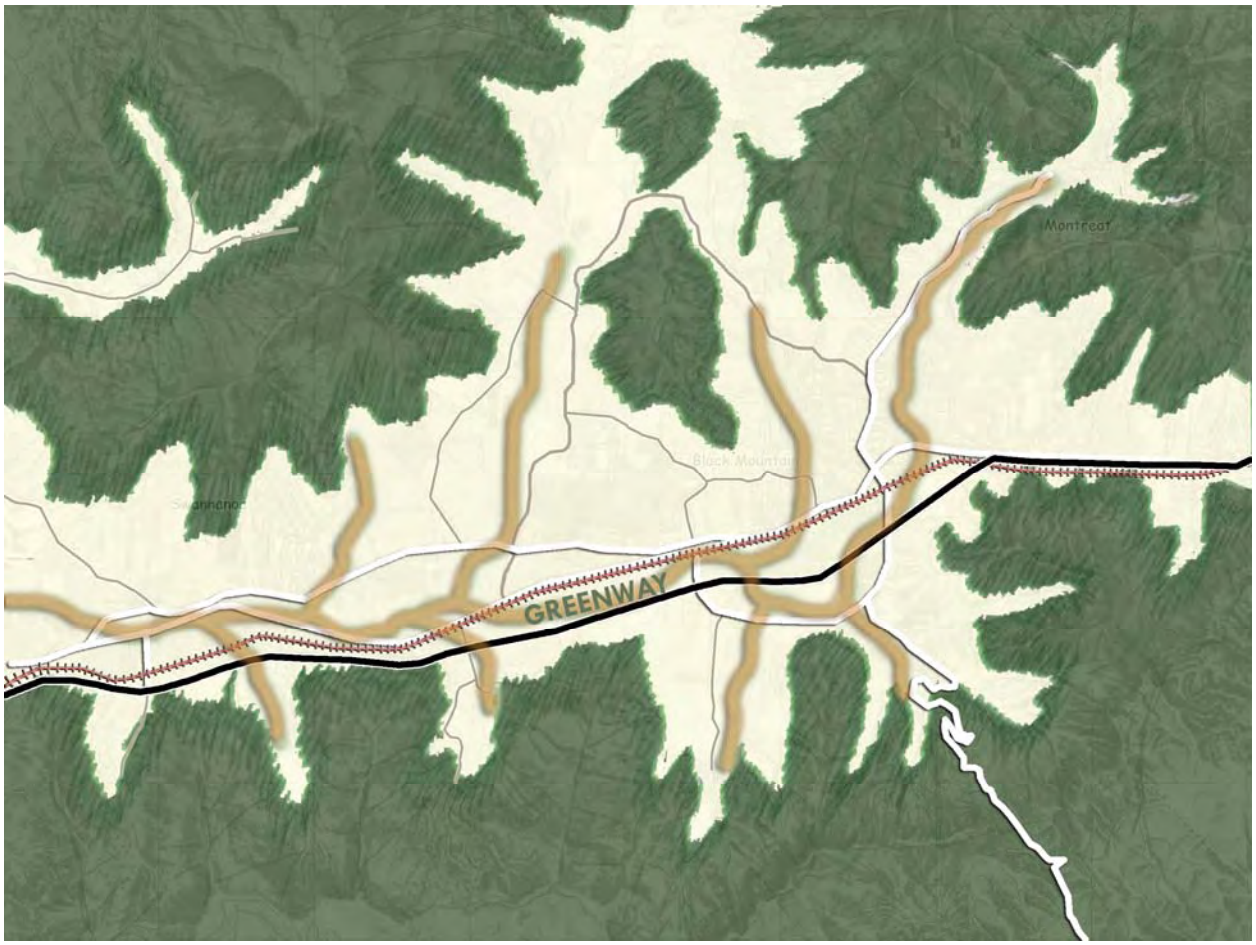
- Minimize number of access points to US 70, and optimize their location.
- Include internal circulation and shared parking provisions.
- Provide connectivity between existing streets by extending and adding local street linkages.
- Incorporate bike and pedestrian facilities and/or design features.

Figure 8: Conceptual Road Plan – Wilson Area



Greenway Network

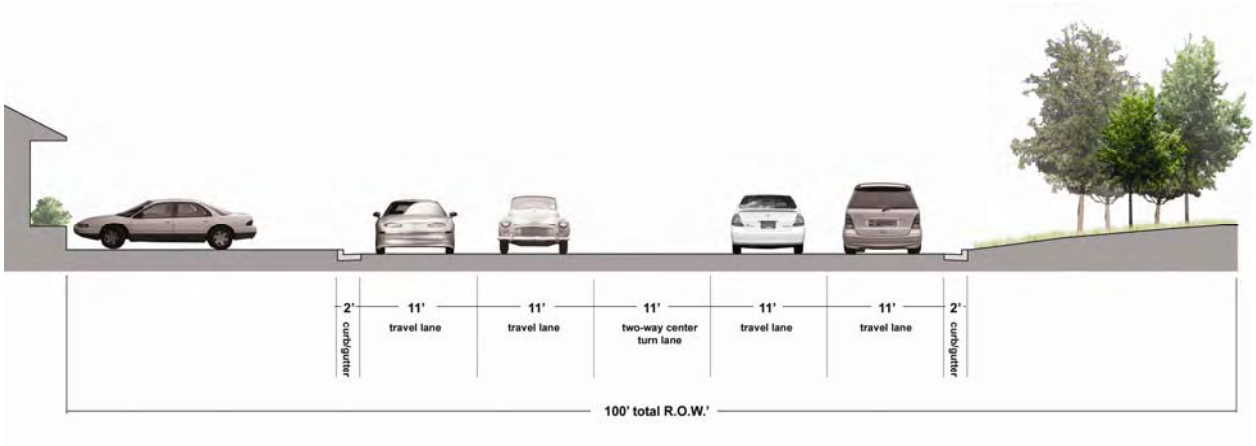
One of the strong recommendations from the public was a desire to see an interconnected, off-road greenway system that would connect the Swannanoa Valley communities to each other and eventually Asheville. Such a system would work best if built roughly parallel to the existing US highway corridor (see image below). The main spine of the system should follow the Swannanoa River from Black Mountain through Swannanoa to points west. Connecting with the main "spine" would be spokes that follow the existing streams that feed into the Swannanoa River. This servers the purpose of helping to protect critical habitat along they hydrologic features of the area as well as provide green "fingers" that connect the residential areas off of the US 70 corridor with the enhanced redevelopment along the corridor.



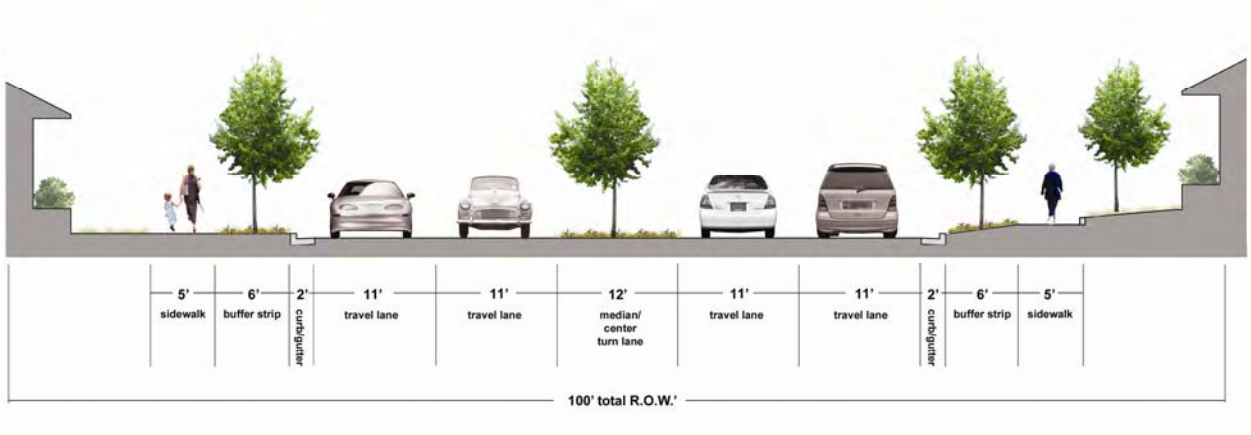
Street Section Enhancements

Below are presented a series of proposed new street sections diagrams at various locations along the US 70 Corridor. As part of any transportation investments along the corridor, the context of what happens both in the Right of Way beyond the roadway edge as well as in the parcels lining the Right of Way is important for creating the type of physical environment espoused as desirable by the participants of this study.

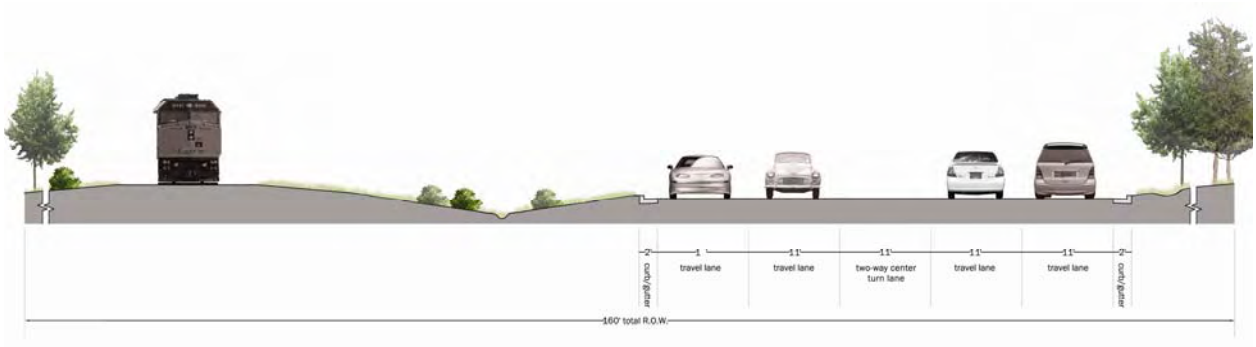
Existing Section between Craigmont and East College



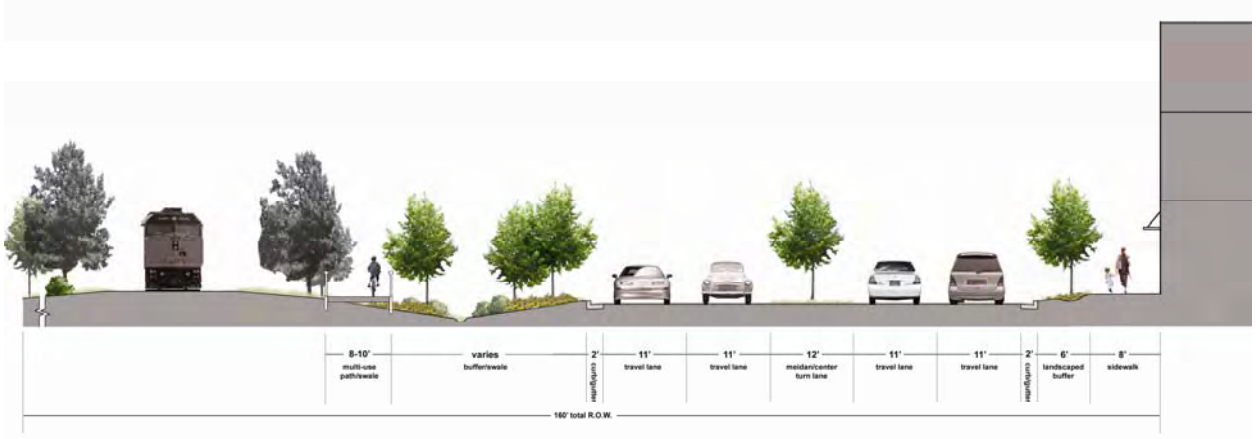
Enhanced Neighborhood Center Section



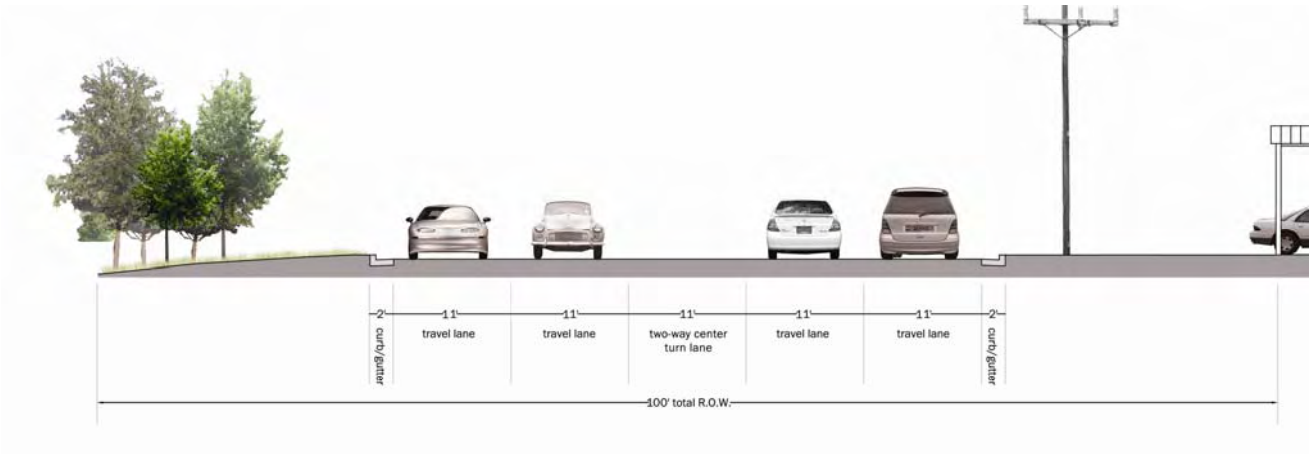
Existing Section east of Blue Ridge Road



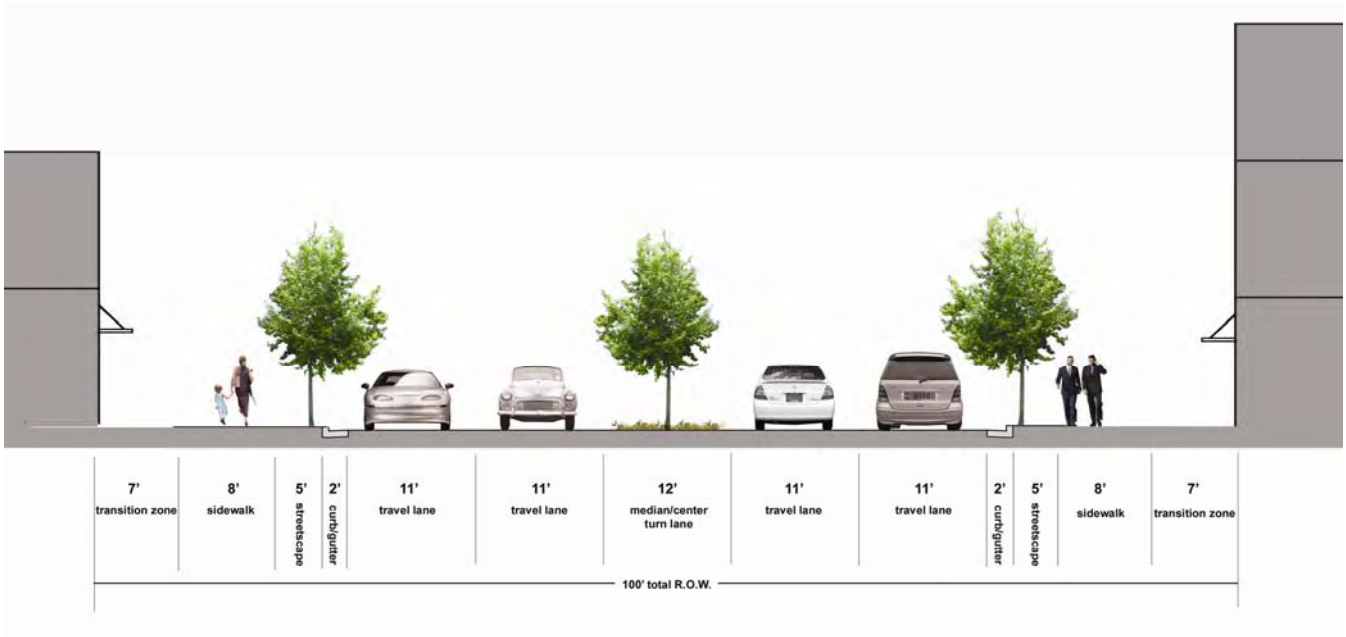
Enhanced Village Center Section with Greenway



Existing Section between Whitson and Patton Cove



Enhanced Town Center



Implementation Tools

The vision for the US 70 Corridor Study lays out a future that preserves and enhances the high quality of life found in the Swannanoa Valley. The preference for "Scenario A", which is characterized by center, or nodal, developments oriented primarily along the corridor, with rural and open spaces beyond the corridor protected, reflects a potential strategy for shaping the growth and redevelopment of the communities along the corridor.

The key issue now is how to achieve that vision? What steps need to be taken to implement the vision for the future character of the corridor? Achieving the vision that is set out in this Scenario Plan will require ongoing attention, advocacy, and new tools. How best to honor the work of the citizens who gave their time and effort in articulating their vision for the corridor? The ideas need to be implemented.

The approach to implementing this plan needs to be multi-pronged. Action is needed on a number of fronts simultaneously to realize these ideas and ensure that future development in the along the corridor reflects the desires and wishes of the community. The previous section detailed out transportation recommendations to be considered by the French Broad River Metropolitan Planning Organization in conjunction with NCDOT and the Division of Rail. Attention is needed by the French Broad River MPO and NCDOT in collaboration with Buncombe County and the Town of Black Mountain, as well as by private property owners. Partnerships will be important.

There are several approaches to implementation, and different tools for different agencies to help further the goals of this study. They are categorized as follows, and discussed below:

	Potential Implementation Tools	Agency	Options
1	Zoning	Buncombe County, Town of Black Mountain	• Corridor Overlay District • Form Based • Cluster Zoning • Steep Slopes/Mountainside
2	Growth Management	Buncombe County	• Growth Boundaries
3	Fiscal Impact Tools	Partnership	• Conditional Zoning/Cash Proffers • Level of Service Standards • Impact Fees
4	Transfer of Development Rights (TDR)	Buncombe County	
5	Open Space Protection	Land Trusts	• Conservation Easements • Purchase of Development Rights

Zoning

Highway Corridor Overlay District
Highway corridor overlay districts are an option for influencing the character of future development/redevelopment along US 70. In an urban and suburban context like that found along US 70 within this corridor, overlay districts may require decreased building and parking lot setbacks and buffer areas along roadways. These buffer areas can contain

Form Based
Form-based zoning codes differ from conventional zoning codes in that they make greater use of graphics to reinforce the text of the regulations, and they emphasize the *form* of development, especially the relationship of building mass and openings to the public street, rather than the use and density of development. They do not require that structures and uses be separated and dispersed. Instead, they promote a more compact, pedestrian-oriented streetscape with a mixture of residential and commercial land uses. This type of approach may be most effective within the Town of Black Mountain, or in Swannanoa, where it could apply to the properties adjacent to US 70. The effect would be to allow for the flexibility needed for these areas of the corridor to develop into mixed-use centers.

Cluster
Under cluster zoning provisions, when a residential subdivision is created, it is designed so that the dwelling units are clustered together on smaller than average lots on only a portion of the tract, leaving the remainder available for open space or similar uses. Clustering may be used in either urban or rural areas. However, the term "cluster zoning" is usually associated with rural land use issues, and as such may be most appropriate for Buncombe County to study/implement.

Depending on the provisions of the specific cluster ordinance, the remaining open space within a cluster development may be held in common and/or be a strictly agricultural or environmental area with no "development rights" remaining on it; or, the open space parcel (s) may be allowed to have a dwelling unit, with a permanent easement that prohibits further subdivision or additional dwellings.

In urban areas, cluster provisions are typically used for preserving sensitive environmental features and/or for encouraging a compact development pattern that makes efficient use of infrastructure. In rural areas, cluster provisions are typically aimed at agricultural and forest conservation, but also may include protection of view-sheds or steep slopes. In addition, clustering encourages a compact development pattern and makes efficient use of existing infrastructures – outcomes deemed desirable by the public through this planning process.

Cluster provisions can be voluntary options within a zoning district, or they can be mandatory. A rezoning may also be required in order to create a cluster development.

One of the key advantages of rural cluster techniques is that the tool can help to preserve rural land resources while still meeting the desires of rural landowners to obtain a relatively high development value for their property. Typically, rural cluster provisions allow roads and dwellings to be sited with less disruption to views from the public road right-of-way and/or with greater buffer distances between neighboring properties.

Steep Slopes/Mountainside
Recognizing the value of the Blue Ridge Mountains to the quality of life in the Swannanoa valley, a steep slopes or mountainside ordinance could help preserve this critical resource. A mountainside

ordinance would protect water quality and drinking water reservoir capacity, soil conservation, forest resources, plant and animal habitat, scenic values, tourism, and the economic impact of these resources.

A potential steep slopes ordinance would regulate residential construction or related road or driveway construction on designated slopes except for the improvement of a road or driveway that existed on the date of the ordinance. A steep slopes ratio of rise over run could be designated at a particular level, such as slopes 25% or greater.

Growth Management

Growth Boundaries
Extensions of infrastructure, particularly water and sewer lines and major streets, significantly affect the timing and density of development. The comprehensive plan can designate areas which are planned for immediate or long-term utility service, thereby coordinating development approvals (re-zonings) and utility extensions to achieve an orderly and compact development pattern adjacent to existing settlements.

Urban Growth Boundaries are not zoning designations per se, but rather policy designations established in the comprehensive plan so as to guide decisions about rezoning applications and public infrastructure investments. Any growth boundary in the Swannanoa Valley would need careful coordination and buy in between the local municipalities, such as the Town of Black Mountain and Buncombe County.

Fiscal Impact Tools

Conditional Zoning/Cash Proffers
Conditional zoning addresses the shortcomings of traditional zoning methods when competing and incompatible land uses conflict. It is a tool for managing the financial impacts of growth.

As designed, conditional zoning allows reasonable conditions, known as proffers, to be offered by the applicant during a rezoning process as a way of mitigating the impacts of the proposed rezoning. Proffers may include land, infrastructure, cash or other conditions/constraints on the use of the property. These proffers, if accepted by the governing body as part of the rezoning approval, become part of the zoning ordinance as it applies to that property. In theory, conditional zoning allows land to be rezoned that might not otherwise be rezoned because the proffers will protect the community or area affected by the rezoning. This might be most appropriate in the rural areas of the study area that are zoned agricultural and face a potential residential rezoning.

Level of Service Standards
Level of service (LOS) standards specify the public facilities needed for new residential developments in an effort to determine if those facilities are adequate to support a proposed rezoning. Level of service standards are typically set out in a guidance document or comprehensive plan for public facilities such as schools, roads, libraries, parks, public transit, water and sewer systems. This tool can be applied only if a rezoning of the property is required for development.

Impact Fees
Making growth “pay its own way” is a major reason local governments have adopted impact fee programs through which developers are required to pay for, in whole or in part, the infrastructure improvements required by the new growth associated with each development project. The costs to

be paid are often for utilities and streets, as well as schools, parks and other public facilities. Where impact fees are permitted, they must be specific, based on a reasonable formula, and uniformly applied. Some of the transportation recommendations laid out in the previous section could be funded in part through such a program as the corridor redevelops.

Transfer of Development Rights (TDR)

TDR, or transfer of development rights, is a concept in which some or all of the rights to develop a parcel of land in one district (the sending district) can be transferred to a parcel of land in a different district (the receiving district). TDR is a tool used to preserve open space, farmland, water resources and other resources in areas where a locality wishes to limit or curtail development.

"Development rights" are assigned to landowners in the rural areas, typically on the basis of a certain number of permitted dwellings per acre. Owners of land in these areas are not allowed to develop at the full level of their development rights, but instead may sell their development rights to owners of land in the receiving district, who may then use the newly acquired development rights to build at higher densities than normally allowed by existing zoning. TDR systems are intended to maintain designated land in open or non-developed uses and to compensate owners of the preserved land for the loss of their right to develop it. Portions of the US 70 corridor designated for new "center" in this study could function as the receiving district under such a scheme.

Open Space Protection

Conservation Easements

A conservation easement (also known as an Open Space or Scenic Easement) is a legal agreement between a landowner and a land trust or government agency that limits the use of the land by recording deed restrictions that prohibit or severely restrict further development in order to protect the conservation value of the property, such as farmland, watersheds, wildlife habitat, forests, and/or historical lands. Each easement is unique in terms of acreage, description, use restrictions, and duration. These details are negotiated between the property owner granting the easement, and the organization that will be holding the easement. Segments of the Swannanoa Valley identified by participants of this study as worth preserving as open space would be prime candidates such easements.

Purchase of Development Rights

When conservation easements are purchased as part of a broad government program, it typically called "Purchase of Development Rights" or PDR. Purchasing "development rights" is the same as purchasing conservation easements, or that portion of the "bundle of rights" that allows landowners to construct dwellings or non-farm commercial structures on the property. Thus, when a locality purchases a conservation easement from a landowner, it essentially "buys" the right to develop the land and "retires" that right by placing a permanent conservation easement on the property that restricts or prohibits further non-farm development. Typically, these easement restrictions run in perpetuity. This would need to be a long term goal, due to its dependence on governmental funding, which, without a dedicated funding source, would be difficult given the value of the land in the study area.

Note: Many of the above measures would need careful and thorough legal and legislative approval. They are presented here as a "menu" of options for consideration by the local communities. Any one or combination of tools would help further the vision described throughout this report. For further info, please see Managing Growth and Development in Virginia: A Review of the Tools Available to Localities, 3rd Edition *prepared by the Virginia Chapter of the American Planning Association, to which much of this section owes a debt.*

Appendix A:

Workshop 1 "Confirming the Vision: How We Will Live"

Route 70 Corridor Likes/Dislikes Summary Comments
Black Mountain Workshop – 2/19/07
Swannanoa Workshop 2/20/07

TRANSPORTATION/ACCESS

Likes:

- Traffic Calming in Black Mountain
- New traffic light on Old US 70 at Riverwood Rd
- Relatively few lights (US 40/Old Lytle Town Rd, south of Swannanoa??)
- Reflectors on Road (Parts of US Rt. 70??)
- Blue Ridge Road in good alternate to Route 40
- Narrowing of Rt. 70 in Town slows and calms traffic
- Shoulder on Rt. 70 frontage road (Shumate Rd.??)
- Good sidewalk network in Black Mountain
- New sidewalks leading out of Black Mountain
- Great Bus Service Route 70 heading to Swannanoa
- Great Bus Service in Black Mountain
- Old 70 more peaceful, non-stop – whole corridor
- Infrastructure of Rt. 70 (near Lytle Cove Rd) – room to turn, 2 lanes of travel in each direction
- Bridge Across Riverwood

Dislikes:

- General Traffic Concerns
- Speeding in Black Mountain – speed limits need to be enforced
- Speeding on Montreat Rd.
- Lack of parking in downtown Black Mountain
- Congestion in downtown Swannanoa
- Congestion on Patton Cove Rd. from old Route 70 to new Route 70
- Need right turn land going east on Route 70

Site Specific Traffic Concerns

- Yield sign in Downtown Swannanoa at Patton Hill Road unsafe – backs up traffic
- Barry Rd. Entrance to existing businesses is bad and unattractive
- Light at Ravenwood Dr. and Route 70 (?)
- Bridge removed that connected Lake Eden and North Fork Rd.
- Lytle Cove Rd has no outlet/access in emergencies when train blocks access to Route 70 – dangerous
- Blue Ridge Rd. is crowded and dangerous for pedestrians and bikers
- Dangerous Bridge (near Blue Ridge Dr.?)
- No cut through at Ingles Center (?)

Problem Intersections

- Lake Eden Rd./Old US 70
- Warren Wilson Rd/Watson Rd.
- Montreat Rd. /North Fork Rd.
- North Blue Ridge at Route 70
- Old US 70/New US 70/W.College
- State St./Craigmont
- US 70/Padgettown Rd. needs some help
- Flat Creek/Rt. 70 (State) congested
- Blue Ridge Rd/Route 9 – lacks visibility to South creates dangerous entry
- Old 70/New 70 intersection creates backup at light – replace with traffic circle
- Watson Ave./Rt. 70 intersection is dangerous
- Beetree Rd. /Warren Rd.
- Patton Hill Rd/Whitstone Ave./Rt. 70 – congested morning/evening
- Old Lackey Gap Rd./Lynch Cove Rd. – bad left turn

Sidewalks/Circulation

- Lack of pathways and bike trails in neighborhoods between Montreat and Riverwood (except in Black Mountain)
- No sidewalks or bike paths from Warren Wilson Rd. to Whitson Rd. commercial area
- No sidewalks through Swannanoa – lack of access and connectivity
- Swannanoa is bike unfriendly
- Unsafe bicycling between 2 towns
- No sidewalk access in vicinity of Ravenwood Rd. commercial area
- Streets in downtown Black Mountain too wide at certain intersections; need better signage for pedestrians
- Need better pedestrian walkway markings in vicinity of Lake Tomahawk

Truck Traffic

- Delivery trucks back up traffic in downtown Black Mountain
- Ingles trucks must wait at RR crossing, creating back up at US 70
- Too many tractor trailer trucks at Ingles warehouse
- Truck traffic conflicts with Black Mountain primary and elementary school pick-up zones
- Truck traffic backs up at I-40 underpass in Black Mountain -
- Truck traffic through Town on State Street in Black Mountain
- I-40
- Exit 59, Exit 64 – congested, jams up, dangerous, residential/commercial/industrial traffic mix stresses interchange
- Exit 63 – congested, dangerous, traffic mix conflicts; either add acceleration lane to Rt. 40 or decal lane to school zone
- Exit 62 – problems with change in speed – goes from 65 to 35 to 20 too rapidly

Opportunities/Recommendations:

- Ingles Warehouse area needs shoulder lane
- Need sidewalks at North Blue Ridge Rd and US 70
- Need pedestrian access from Blue Ridge Apartments to shopping center

- Need bike paths and pedestrian pathways in commercial areas between railroad line and I-40 (location?)
- Make a left turn only lane at State Street/Broadway and create a combined left turn/thru lane
- Additional Rt. 40 interchange
- Need connector Road from Lytle Cove Road to Old Lytle Cove Rd.
- Use railroad for public transit

COMMUNITY DESIGN

Likes:

- Character of Downtown Black Mountain
- Walkable Downtown
- Tourist Friendly Downtown; place for festivals, etc.
- Good Community feeling in downtown Black Mountain
- Layout of Grovemont – replicate in other areas of the park?
- Montreat
- Plans for Veterans Hospital
- Blue Ridge Neighborhood
- "Treasured" intersection in Downtown Black Mountain
- "Treasured" Beacon sign on side of building
- Sprawl development

Dislikes:

- Food Lion Shopping Center in Black Mountain is visually unappealing
- Downtown Swannanoa lacks aesthetic appeal and vitality
- Industrial areas are eyesores – Ingles warehouses, old Beacon site, Patton Cove Industrial
- Existing, treeless strip commercial centers are visually unappealing, eyesores (particularly areas south of old US 70 and north of Route 40 between Grovestone and Black Mountain Rec. Area)
- Sprawled Business Development
- Inconsistent and ugly signage in strip commercial areas
- Haphazard commercial development in Swannanoa
- Downtown Swannanoa area is aesthetically challenging
- Opportunities/Recommendations:
- Downtown Swannanoa should be the primary activity center for area
- Preserve Residential Neighborhoods in Black Mountain
- East End of Rt. 70 Corridor has development potential
- Condense Shopping areas; pull back from road; create walkways
- Better looking, more consistent signage
- Revitalize & redevelop old strip centers and buildings
- Need trees all along Route 70 corridor

OPEN SPACE/SCENIC RESOURCES/RECREATION

Likes:

- Mountain Views. Ridgelines
- Protected Green Space – such as Blue Ridge Assembly
- Magnificent scenic beauty

- Beauty of the valley
- Open space
- Scenic biking (Route 9) and pedestrian trails (Montreat area)
- Greenways along river and near public parks
- Parks and wildlife refuge near Watson Road
- Black Mountain Recreation Area (Grey Eagle Sports Facility?)
- Owen Park
- Back Mountain Golf Course
- Lake Tomahawk
- Highland Farms

Dislikes:

- Clear cutting of cliffs south of Route 40 near Alamanche Lane
- Loss of green space due to new development South of Route 40, south of Swannanoa
- Lack of Green Space Planning

Opportunities/Recommendations:

- Preserve Mountaintops
- Keep natural area buffered from traffic
- Improve access to River via greenways, trails
- Connect Owen Middle School to park near Watson Road via greenway
- Keep views to mountains (from towns) unobstructed

COMMUNITY FACILITIES

Likes:

- Libraries in Swannanoa and Black Mountain (also like the design of the building in Black Mountain)
- Black Mountain Bus Lines
- Blue Ridge Assembly High School
- Community Schools in Swannanoa
- Schools in Black Mountain
- Town Government area (design comment?)

Dislikes:

- Students can't walk to/from schools (Swannanoa)
- Opportunities/Recommendations:
- Connect Owen Middle School to park near Watson Road via greenway

ECONOMIC DEVELOPMENT

Likes:

- Ingles Grocery Store
- Small Businesses (between Black Mountain and Swannanoa near Owen Middle School)
- Haliburton – good employment use and preserves green space
- Cove & Patton

Dislikes:

- Unattractive commercial/industrial areas

Opportunities/Recommendations:

- Revitalize & redevelop old strip centers and buildings and industrial areas

Appendix B:

Workshop 2 Public Input - Scenario Evaluations

The project's second public workshop was help September 17th and 18th in Swannanoa and Black Mountain. Approximately 20 persons participate on each night. The purpose of the meetings was to introduce the land use scenario planning, transportation and street section enhancements. Participants were given a worksheet that ranked the three scenarios on a scale of 1 to 5 with 1 being least preferred and 5 being most preferred. The majority of participants indicated they preferred the nodal, corridor oriented development of Scenario A, with Scenario B second and almost everyone indicating the least preference for elements of the Trend. The average scores of each scenario are shown here:

Scenario	Trend	A - Parallel Centers	B - Dispersed Centers
Average	1.2	4.5	2.7

In addition, participants were asked to provide feedback on each scenario, namely what they like, what would change and how could it be achieved. They were also invited to provide general comments or suggestions for the whole area or specific locations. Their comments are recorded below.

Trend Scenario

What do you like about the Trend Scenario?

- Nothing, is unsafe, ugly, non-pedestrian friendly.
- Bleigh
- Not much, is uncontrolled and ugly.
- Not a whole lot.
- Not much.
- Uncontrollable
- Very little
- Nothing
- Nothing, I like the way it is now.
- Its authenticity to current conditions
- Typical, congested
- Nothing, too much congestion
- Opportunity to re-develop vacant areas and malls

What would you change about the Trend?

- Strip center look.
- Ownership of the Cliffs
- All of it.
- More thoughtful planning is needed.
- Need better control, less development on slopes.
- Zoning.
- Zoning laws, steep slopes
- Hate the haphazard, sprawling growth and steep slope residential development.

- Hate the strip mall development.
- Don't like multiple centers
- Sprawl, ugly development, no concern for bikes or walking
- Slope side degradation
- View shed destruction
- Increase pedestrian access and connecting
- Decrease slope development
- Truck traffic in Black Mountain and Swannanoa comes in and leaves at Lytle Cove
- Everything.
- Keep development off the slopes and from being a continuous line
- Use of various types traffic patterns.

How could the Trend Scenario be achieved?

- Status quo
- Not do anything.
- Bridge from Lytle Cover off 40 over rail road and 70 with return to East and West red light near bridge on 70 at Swannanoa and Black Mountain line.
- Be careful to not zone areas to tie-up development.

Scenario A: Parallel Centers

What do you like about Scenario A?

- Kills many curb cuts
- More centralized development areas
- More employment
- Group residential and commercial.
- Focus on existing infrastructure
- Pedestrian friendly orientation
- Smart growth trend
- Rear access
- Bravo, the redevelopment of Ingles' ugly lot and shopping plaza.
- Possibility of redevelopment of strip centers.
- Transit use possibilities
- Reduces speeds and context sensitive design.
- Focuses development around US 70 and existing water and sewer.
- Has better connectivity possibilities
- Keeps development off steep slopes
- Greater walk ability and access to transportation
- Allows for more mass transit options
- Focuses attention on US70
- Priority on US70
- Density of growth with town centers, mixed use growth with residential and commercial
- Access to public transportation
- Limits growth on steep slopes
- Like the village look in several main places
- Easier to combine errands for people walking (saves on gas)

- Like the idea of a centralized commercial area.
- Environmentally responsible. When running errands I want to keep things together.
- Closer to future households and employers (1/4 mile)
- Better layout of planned land.
- Keeps development off steep slopes
- Promotes mixed-use and walk ability
- Redevelops existing property
- Clearly defined town centers with alternative access management
- Economic development
- Practical
- Convenience of access to various businesses, possibility of nice businesses drawing customers
- Helps make Swannanoa a vibrant community (commercially and otherwise); makes accessing centers convenient
- Use of redevelopment

What would you change about Scenario A?

- Move village center from Patton Cove Road to Whitson Ave.
- Greenways are very important to connect
- Landscape is important
- Add new industrial centers at close plants.
- More nodes at entrance to Cliffs
- Variety
- Move Swannanoa town center to include existing downtown. Remove neighborhood center.
- Light rail transport along US 70 to Asheville
- Bikeways north-south from housing in valleys to parks/shopping areas within the valley.
- Add bike facility to connect to Asheville
- Put medium of green.
- Add a center for Grovemont community - this could be a mixed use neighborhood center.
- Make sure there are options for cycling and pedestrians
- Connect smaller roads for through routes south of US70.
- Add walkways and bike trails
- Move town center to old Beacon site and old downtown Swannanoa, not Patton Cove Road.
- Less rural cluster and rural residential.
- Less land use total.
- How do you keep development centered in town, village and neighborhood centers and delete sprawl (the trend)? The big issue/question.
- I would not change anything but I know change will come.
- Steep slope development
- There needs to be a way to promote the redevelopment of existing properties
- Would accommodate access from 40 to heavy industrial areas of Grovemont and Ingles
- Have businesses be connected rather than having to go out to 70 again to the next 'center'
- Put bridge over railroad at Lytle Cove.

How could Scenario A achieved?

- Redevelop old downtown Swannanoa.
- Reuse vacant buildings
- Utility access
- Heath Center Focus

- Tax Advantages
- Zoning
- Impact Fees
- Tax Increment Financing (TIF)
- Within 10 years build continuous access road along South of I-40.
- Link bikeway/greenway around north of Warren Wilson to connect with Asheville's River-link project along Swannanoa River.
- Beacon property should become the town center.
- Bike Plan
- Will need zoning changes to ensure steep slope development does not continue.
- Redevelop existing empty and closed plants.
- Improve old US70 which would move traffic from US70.
- Some kind of incentive to builders for higher density, mixed use development along degraded town centers.
- Section visioning
- Get more people out to meetings, all stakeholders to meetings, use non-traditional methods to get non-traditional people out)
- Partner with community organizations and civic groups and champions
- Trees, sidewalks, roundabouts, bike trails, specific zoning that does not encourage strip mall development.
- More user friendly entrances - many too small or tight.
- A median is needed along all of US70.
- Zoning. Strict development laws, no steep slope development, more incentives for redevelopment, encourage businesses to plan with complete streets in mind.
- Adoption of 'complete streets' for all new and redesign work of roads, trails, paths, bikeways and greenways.
- Recognition of all forms of transportation as equal.
- Better floodplain map
- Better layout of roads.
- Ridge top protection, density controls
- Mixed use zoning
- Incentives for corridor development vs. slope development
- Reconstruction
- People at Lytle cove want an intersection.
- Economic incentives for businesses to locate or relocate to the centers.
- Get rid of those nasty old buildings, 70 is just plain ugly right now.
- Be careful to not zone areas to tie-up development.

Scenario B: Dispersed Centers

What do you like about Scenario B?

- More dispersed commercial
- Great big picture but won’t work.
- Concept of neighborhood centers off US70 is not attractive and they seem too "out there." Not sure if this would really keep people off US70.
- Neighborhood centers.
- Variety of centers, keeps traffic from US70.
- Ok to have small pockets of neighborhood developments where people/children meet to gather/play, example whole area surrounding Swannanoa Library park.
- Less rural households and neighborhoods

- This scenario is happening already
- Emphasis on residential development
- Convenient
- Less congestion on 70
- Less destruction of natural environment. Makes living rurally more practical, might alleviate 70 traffic.
- Nothing
-

What would you change about Scenario B?

- Hard to control neighborhood commercial
- The location of some 'nodes'
- Add walkways and bike trails
- I don't like the idea of distribution of town centers, so dispersed.
- Keep more services near the corridor, Swannanoa s often a "pass through" town to someplace else, dispersed centers would not help people stop in, visit or use Swannanoa services.
- Keep more services together instead of broke up.
- Concentrate development along US70 and not up the valleys.
- Centralized sprawl.
- Don't see how this could work.
- Good signage

How could Scenario B be achieved?

- Improve old US70 which would move traffic from US70.
- Will need zoning changes to ensure steep slope development does not continue.
- Not do anything.
- Most people like Ingles stores that have everything they need.
- Get rid of those nasty old buildings, 70 is just plain ugly right now.
- Economic incentives for businesses to locate or relocate to the centers.
- Be careful to not zone areas to tie-up development.

General suggestions, ideas or specific comments

- I think greenways, bikeways, walk able development along the Swannanoa River is of vital importance for transportation, recreation and could eventually provide connectivity between Black Mountain, Swannanoa and Asheville.
- Light rail should be addressed too, the infrastructure is there and we need to make use of it.
- We need an additional interchange to control traffic flows at Exit 59.
- Develop light rail parallel to US70.
- Develop bus lines
- No exit on Lyle Cove
- Use Blue Ridge Road
- Use existing plants that have been left vacant.
- Exits 55 and 59 are backing up onto the interstate at rush hour
- Very concerned about traffic pattern from 7:15 am - 8 at Owen Middle School on old US70. Too many parents are driving their kids to school (mine generally ride the bus). Police officers have come to manage traffic, it's very dangerous there especially when an officer is late or does not come. We need sidewalks to encourage more kits to walk/ride bikes and we might need some type of traffic light.
- Beautification is greatly needed on corridor

- A study is needed at old 70/Beacon bridge/US70 corner. Why does old US70 traffic flow take precedence over US70. Vegetation at old 70 to corner creates a visual obstruction. A stop sign to control traffic flow is extremely obsolete with growth of Swannanoa in recent years.
- Old 70, US70 and Whitson Road is unsafe. Traffic flow there needs a detailed study. Old 70 has the right of way at all times and traffic from the light at US70 becomes gridlocked. Vegetation creates a problem to try to turn right or left. Plus there is no way to cross US70 at Whitson without a green light from one direction or another.
- Before the development of Walgreen, DOT needs to secure more rights of way at the corner.
- Regardless of Plan A or B, all newly constructed or reconstructed existing roads should consider all users: pedestrians, bikes, motorists, public transportation, wheelchairs, and users of all ages and abilities. Be flexible in design, create a comprehensive, integrated and connected network of roads, paths, greenways, trails, etc. Is adopted policy by all agencies involved. Applies to new and retrofit designs and includes maintenance, planning, design for entire corridor. Uses best design standards, fits the community and situation involved, has a review, performance standards with measurable outcomes. Considers environment, economics, and social/cultural needs of the entire corridor. Includes bike lanes, safe and attractive crosswalks, public art, buss pull outs and shelters. Be user friendly to all, especially those without cars (about 30% of any community). Make it easier to travel by foot, bicycle and public transportation than car. Add electric trolley within corridor or bus service for in-community (we have this on limited basis). See completestreets.org
- I wouldn't change a thing about Black Mountain.
- Ingles and Quarry truck traffic is the biggest problem.
- Truck traffic on a dry day is 25 to 1 gravel trucks going to Asheville versus tractor trailers going to Ingles. The only way to stop trucks from congesting Black Mountain and Swannanoa is a Lytle Cove exit which is closest to the quarry which is the source of most of the truck traffic.
- Set aside areas for parks.
- I have lived where there was a roundabout in a well-trafficked area that was a nightmare (safety and flow) (Fairfax Circle, Fairfax, VA)
- Would need more to compare A&B to feel solid about a preference of one over the other.
- Eastbound on I40 at exit 59, traffic backs up in the right lane of I40. That exit could be made two lanes.
- Propose conservation area. The Asheville Flood Dam Redevelopment Task Force and Swannanoa Pride are proposing the purchase of floodplain properties for possible greenways and these could connect to the Black Mountain greenways plan

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