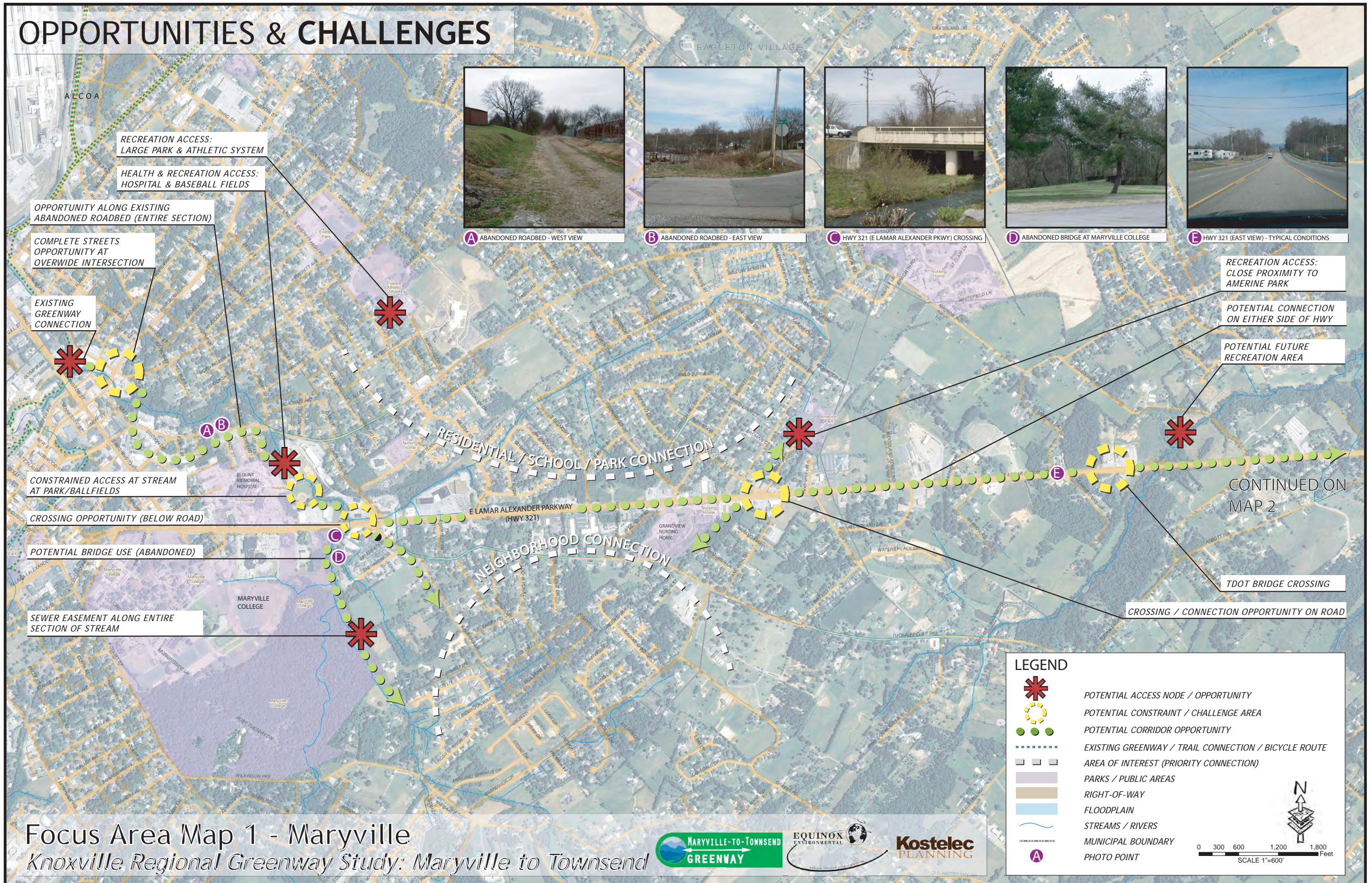
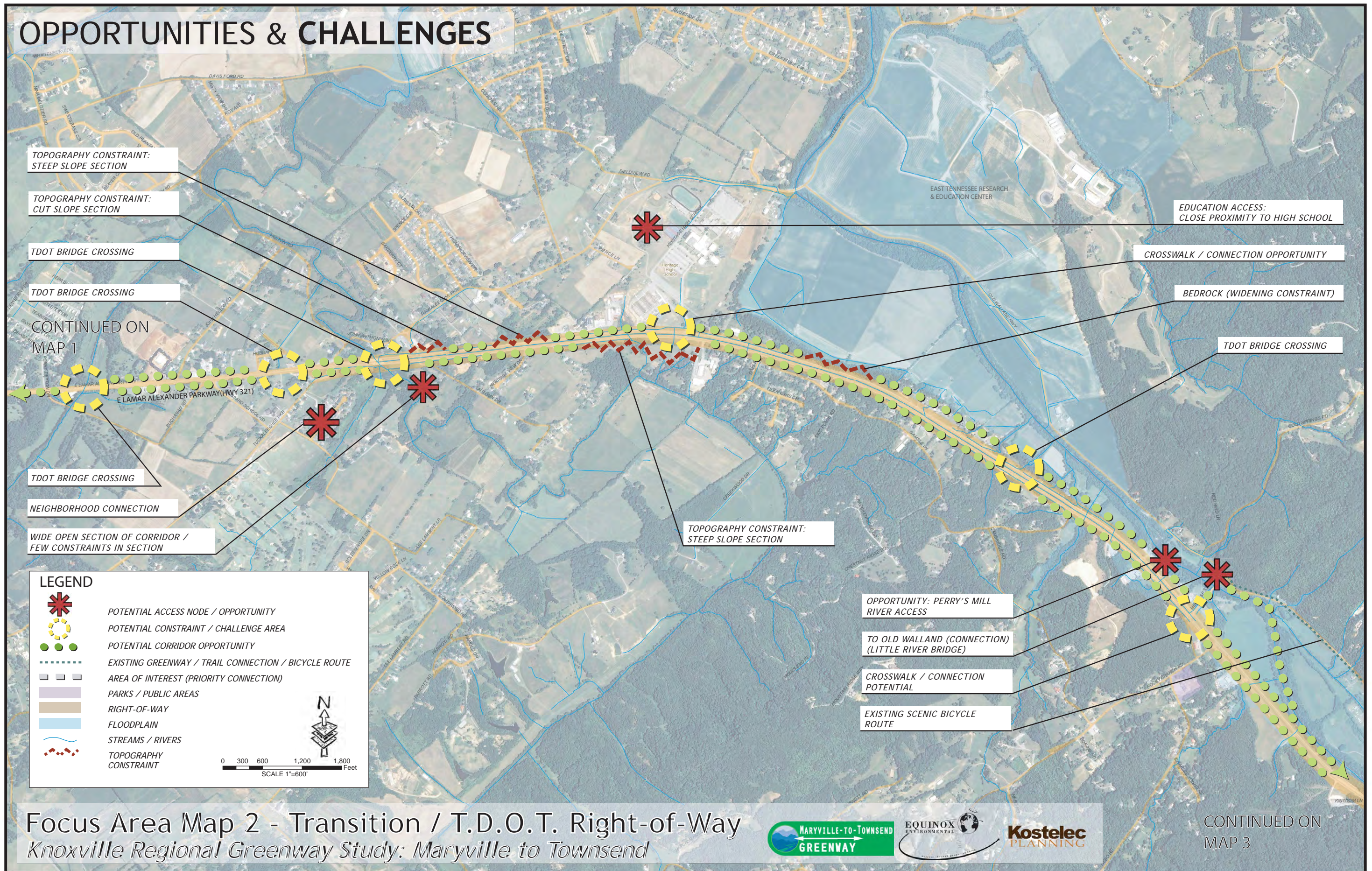


OPPORTUNITIES & CHALLENGES



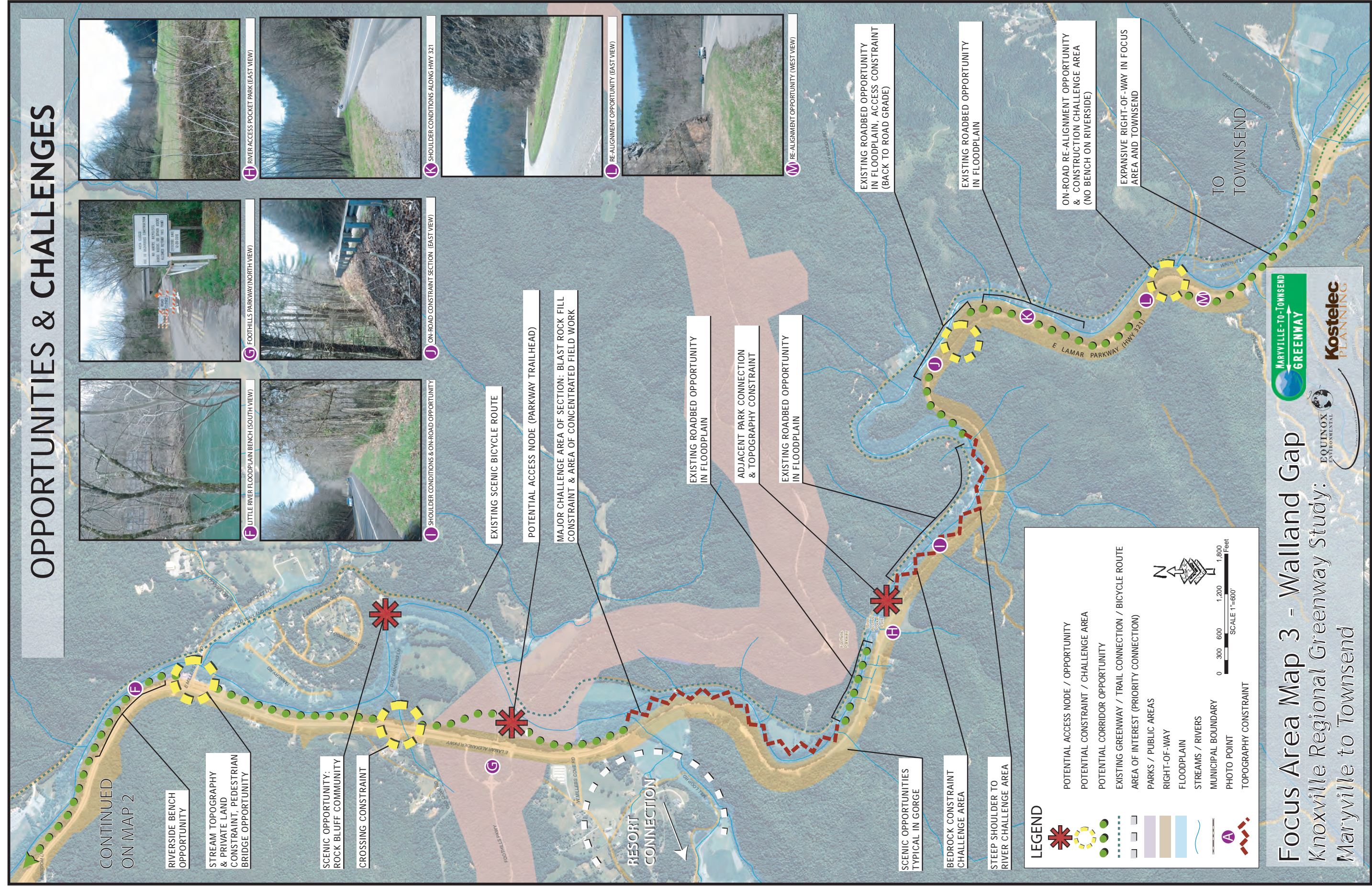
SECTION III. OPPORTUNITIES AND CONSTRAINTS

OPPORTUNITIES & CHALLENGES



Focus Area Map 2 - Transition / T.D.O.T. Right-of-Way
Knoxville Regional Greenway Study: Maryville to Townsend

OPPORTUNITIES & CHALLENGES



Focus Area Map 3 - Walland Gap
Knoxville Regional Greenway Study:
Maryville to Townsend

OPPORTUNITIES AND CHALLENGES

The Maryville-to-Townsend Greenway will be a significant corridor within the Knoxville area greenway system. It will provide the connection to Townsend, at the edge of the Great Smoky Mountains National Park. The following is a summary of the overall opportunities and challenges for the proposed Maryville-to-Townsend Greenway.

U.S. Highway 321/Lamar Alexander Parkway

This road corridor includes a significant area of right-of-way that could support a multi-use trail system. As the location for a trail system, U.S. Highway 321 poses some challenges, including safety concerns, perceptions of users, and the quality of the recreation experience it would provide, compared to other nearby corridors.

The Little River

The Little River is both an opportunity and a challenge for possible greenway development. A route along the Little River would offer a uniquely scenic greenway experience that would attract greenway enthusiasts from around the region and beyond. The primary challenge of a greenway along the Little River is the significant opposition from many who own property along the river. Any greenway along the Little River would require voluntary donation or sale of easements or land by private landowners.

Scenic Quality

A majority of the landscape from Maryville to Townsend is rural and scenic. The Great Smoky Mountains become a prominent part of the landscape as one travels east from Maryville toward the National Park. The urban context of Maryville transitions quickly to commercial and then to a rural landscape character consisting of farms, low-density rural residential areas and small businesses. Prior to entering Townsend near Walland, the gap between the river and highway narrows as the river flows through a narrow gorge and the road is carved through Walland Gap.



Figure 4—U.S. Hwy 321 has a wide right-of-way in some areas allowing for usable areas for the greenway and potentially a buffer from U.S. Hwy 321

National Park

This greenway corridor provides a connection into the gateway of the Great Smoky Mountains National Park. The Townsend gateway into the park offers access to Cades Cove, one of the more popular destinations in the most visited National Park in the country. A greenway of such significance could provide the opportunity to serve as a landmark destination or as a major tourist attraction depending on the visual quality, amenities, and design of the greenway corridor. The Great Smoky Mountains Heritage Center in Townsend offers interpretive displays of Native American and mountain culture. As well, the greenway corridor traverses through an undeveloped section of the Foothills Parkway, which is also owned and managed by the National Park Service and offers significant views of the Smoky Mountains from key vantage points.

Connectivity and Access

The Maryville-to-Townsend Greenway has the potential to connect population centers, public schools, Maryville College, Blount Memorial Hospital, surrounding neighborhoods, retirement communities, several parks, businesses, shopping, and other greenway trails. The Maryville/Alcoa greenway network already includes 21.7 miles of trails, and Townsend’s existing trail runs for 9 miles. Greenway connections to public lands also create opportunities for a high level of usage. Examples of public lands providing opportunities for greenway development include University of Tennessee Research & Education Center, Heritage High School, and Foothills Parkway.

Health and Wellness

There are many health benefits to regular physical activity, and the Maryville-to-Townsend trail link would expand access to those in Blount County. Blount Memorial Hospital already recognizes those benefits. The hospital funded the greenway loop around the lake at the City of Alcoa's Springbrook Corporate Center, and incorporates the trail into the wellness programs at its nearby Blount Memorial Wellness Center.

Economic Growth

A completed greenway trail system that extends over 13.7 miles and connects to the National Park will provide significant economic benefits to Blount County and surrounding communities through increased revenue from tourism and recreation. This corridor also has great potential to attract economic development, providing new business opportunities.

Topographic/Natural Landforms

Significant topographic features exist once the greenway approaches the gorge and Walland Gap. Steep topography creates a challenge for greenway construction and increases costs for trail development, as does an alignment located in the floodway that requires stream crossings. In addition, there are areas of spatial constraint in which a road is located close to the top of a steep bank or along the river, which makes adding a multi-use pathway a major challenge.

Private Property

This Master Plan envisions a greenway trail from Maryville to Townsend that lies entirely within existing public right-of-way. Any alternate routes that cross private property would require voluntary donation or sale of land or easements by private property owners. This would require both time and resources to negotiate and acquire land or easements.

Maintenance

Once a greenway is built it must be maintained in order to provide a safe and attractive greenway for trail users. Maintenance and operations costs are often an overlooked aspect of greenway costs and require dedicated funding on an annual basis. Greenways require regular maintenance activity that can include mowing, weed control, trash collection and disposal, asphalt repair, and site furnishing repair or replacement.

Infrastructure

Existing infrastructure can form physical barriers for trail development. Infrastructure along the corridor includes: existing roadways and buildings, utility lines (sewer, water), drainage structures (culverts and pipes),

and utility lines (electrical, telephone and cable). Numerous curb cuts along U.S. Highway 321 can create a challenge for greenway users and create conflict points. A greenway along U.S. Highway 321 will need to address access points, safety, driveways/curb cuts, and buffering to provide a positive user experience.

The general opportunities and challenges have been further assessed as part of a site inventory and analysis of the Maryville-to-Townsend Greenway corridor. The inventory and analysis guides the potential alignment and route of the greenway. A combination of GPS, on-site investigation, windshield surveys and aerial photo interpretation was used. The opportunities and challenges have been broken into three areas:

Focus Area 1: Maryville/ Alcoa

Focus Area 2: U.S. 321/TDOT Right-of-Way

Focus Area 3: Walland Gap

Focus Area 1: Maryville/Alcoa

Connectivity was explored to identify access from the existing Maryville/Alcoa greenway system to U.S. Highway 321 (See Focus Area Map 1). A possible greenway connection was identified at Aluminum Avenue. Access from this location could be accomplished by using a combination of the existing road system to gain access to an abandoned roadbed (likely railroad) via Everett Avenue. The Everett connection would require improvements along the road (on-road section) and would also require considerable intersection improvements at Everett and East Broadway. From the abandoned roadbed, there are few challenges that would interfere with access to the site of the private Little League baseball fields (Figure 5 & 6). Tax parcel data indicates that the abandoned road bed is within the right-of-way. During the site analysis, it was confirmed that terrain in this area is suitable for a greenway.

At the ball fields, the stream bisects the fields and an access road. The location of the fence of the ball field creates a pinch point. A potential route in this location could follow the base of slope between the hospital and the ball fields in order to connect to the bridge located on U.S. Highway 321. At this location the greenway would connect with U.S. Highway 321 and continue east. The bridge is composed of two "barrels" in which the primary flow of the stream is located in one of the barrels while the other remains dry. A "low

flow” trail connection could be explored to gain access across TDOT right-of-way by utilizing the dry barrel. This would provide a greenway connection to Maryville College via an abandoned bridge which could serve as a footbridge to connect back to the east side of the stream (Figure 7).

Once south of U.S. Highway 321, a sewer line runs south along the creek into an area of neighborhoods with a substantial amount of density. Potential trail alignments in this area may follow Tuckaleechee Pike, the sewer easement, or appropriate tributaries. Eventually, a connection should be made back to U.S. Highway 321. A logical connection point may be near Morning View Village as this is the current limit of concentrated density for this area.

Opportunities:

- Abandoned roadbeds provide unencumbered corridors
- Street rights-of-way can be used to provide options for connectivity
- Residential /school /park connectivity opportunities
- Linkage to established existing greenway system
- Use of existing sewer easements for the greenway
- Linking people to schools (strong Safe Routes to School candidate) and existing park systems
- Road improvements can incorporate Complete Streets design to improve livability
- Connection to Maryville College
- Relatively short distance to connect Aluminum Avenue to U.S. Highway 321

Challenges:

- High use road (Aluminum Avenue to abandoned road bed)
- Driveway cuts (along U.S. Highway 321) and user safety crossing driveways (Figure 8)
- Private land ownership



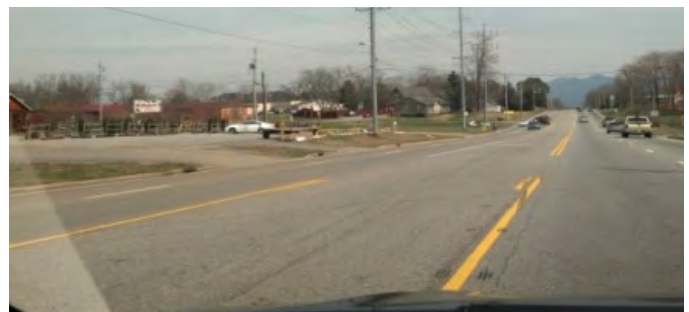
*Figure 5—Ball fields adjacent to stream
(North of U.S. 321)*



*Figure 6—Abandoned roadbed between
Aluminum Avenue and ball fields*



*Figure 7—Maryville College floodplain
bench (south of U.S. 321 bridge)*



*Figure 8—U.S. Highway 321 corridor typical
conditions within Maryville*

Focus Area 2: U.S. Highway 321/ TDOT Right-of-Way

This section includes relatively consistent conditions (See Focus Areas Map 2). The TDOT right-of-way provides an opportunity for two possible alignments, either on the north or south side of U.S. Highway 321. Regardless, a crossing should be considered for access into the core of the Maryville/Alcoa greenway system. The route along U.S. Highway 321 poses several types of challenges including driveway cuts, proximity to traffic, and overhead electric utilities.

In several locations along U.S. Highway 321 there are opportunities to provide off-road sections of greenway that would fall within the TDOT right-of-way. Consideration will be given to the designation of this road as part of a Scenic Byway and opportunities to improve the aesthetic and recreational experience of a bicycle and pedestrian in the Corridor Design chapter.

Opportunities

- Scenic views of the Great Smoky Mountains
- Economic growth potential
- Greenway highly visible from the roadway
- Possible conservation easement located in this area with potential use as ball fields, parking (park and ride for greenway system), and/or park.
- Connectivity to Heritage High School

Challenges:

- Vehicular bridges with limited room for pedestrian/bicycle separation.
- Driveway cuts (primarily within Maryville) and their impact on trail safety
- High volume and velocity of motor vehicle traffic
- In some locations, a narrow shoulder exists limiting potential greenway development
- Visual character and overall interest of this section of the corridor



Figure 9—Typical view east of U.S. 321 road corridor
(potential conservation easement property just
beyond campers)



Figure 10—Limited access between Little River
and gas station

Focus Area 3: Walland Gap

The Walland Gap area is a significant challenge for the greenway corridor due to landform, topographical issues, and existing infrastructure. This area also holds the key to linking the existing Maryville/Alcoa greenway system to Townsend’s greenway system. Cost of construction in this section will be higher than other greenway sections within the project area. However, it could result in the development of a landmark greenway segment serving as a destination in itself within this greenway corridor for both residents and tourists.

Several potential routes may be considered for this section of the greenway, such as U.S. Highway 321, Old Walland Highway, West Millers Cove, and the Little River corridor. While there are significant challenges to this section of the greenway, there are also wide rights-of-way, an existing bench in the form of an old roadbed/ old railroad along sections of the Little River, and scenic views.

Opportunities

- Proximity to the Little River corridor
- Potential to reduce bicycle/ pedestrian/ motor vehicle conflicts and safety concerns on Old Walland Highway
- Potential to use innovative structural systems that have been used in similar challenging areas throughout the country, such as prefabricated panels with sonotube footers, cantilever systems, and soil nail retaining wall systems.
- Connection to Foothills Parkway for use as a greenway node

Challenges:

- Old roadbeds located between U.S. Highway 321 and the Little River frequently terminate into debris slopes (from U.S. Highway 321 construction)
- Spatial challenges of Old Walland Highway (road width, limited shoulders, limited right-of-way)
- Limited roadside shoulder along U.S. Highway 321 to accommodate a greenway trail
- High construction cost as compared to typical greenway construction costs
- Work within this section will need TDOT review, which may require surveying, geo-technical exploration, flood mapping studies, and structural engineering to alleviate any concern of negatively affecting fill stability from the roadway.
- Access along several areas within the Little River floodplain will be limited, requiring additional cost in construction logistics and sequencing.

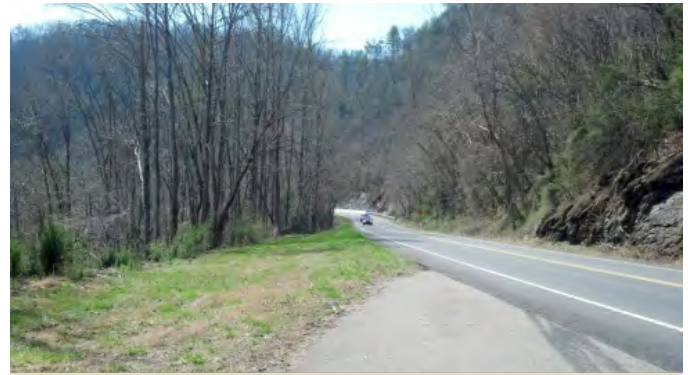


Figure 11—Typical corridor conditions throughout Walland Gap area; note the steep terrain on right (south)



Figure 12—Typical Old Walland Highway conditions (informal river access)



Figure 13—View across Little River of existing floodway bench below U.S. 321



Figure 14—Current Foothills Parkway terminus