Concept Evaluation & Refinement

The concepts were refined through a series of workshops and public meetings into five design alternatives. The evaluation took into account various technical, economic, and quality of life/environmental criteria. Detailed simulation modeling tested the effectiveness of traffic operations under future traffic volumes. Urban design options were developed testing the ability of the alternatives to accept development and to evaluate their pedestrian-supportive character. Stormwater and natural systems were evaluated for continuity and the connectivity of bicycle, transit, and pedestrian circulation. Costs for design and construction were also evaluated.

Future travel times for regional trips on US29 and the US250 Bypass, and for more local-serving routes were assessed. The analyses showed that without road improvements, future travel times would be considerably longer than current conditions. With the proposed improvements the future travel times, particularly for US29 to and from US250 Bypass to the west, would be equivalent to or less than today’s.

- Provides safe and pleasant pedestrian environment, access, and circulation, and safe pedestrian crossings with median refuges;
- Creates an attractive streetscape with wide sidewalks, street trees, medians, and pedestrian-scale lighting;
- Connects development within the parcels in the triangle area and that north of Hydraulic Road; and,
- Provides a higher potential for ‘Green Streets’ landscaped water-quality treatments in proposed medians.

Construction of a single point urban interchange (SPUI) at US29/Hydraulic Road supports multi-modal, economic, and urban design goals. If designed correctly, it:
- Protects pedestrians and bicyclists from exposure to heavy traffic on US29 and provides a safe connection between areas east and west of US29;
- Works most efficiently with existing topography in the area;
- The SPUI can work well with the concept of a multi-way boulevard to the north, if that proves to be a desired choice in the future corridor planning effort;
- Can be phased to follow the other planned improvements to satisfy building impact and project financing issues;
- Supports the deemphasizing of Hydraulic; and,
- Fits with the redirection of more local trips to the Hillsdale extension and connector roads to the west of US29.

Deemphasizing Hydraulic as a major connector between US29 and US250 allows it to:
- Function for more local level transportation trips;
- Support a vital commercial and mixed-use area between Greenbrier and US250; and,
- Provides good access to businesses and services for pedestrians, bicyclists, and transit.

Transportation and urban design improvements for Hydraulic Road with sidewalks, bicycle lanes, park-like medians and roundabouts transforms its character from a street dominated by freeway traffic to one that:
- Provide an improved streetscape and multi-modal access that encourages new commercial and mixed-use development to front onto the street;
- Safely accommodates the important east/west bicycle connection;

Redesign of Hydraulic Road/ US29 into a SPUI (left); Redesign of Hydraulic Road with roundabouts and medians (right)

The evaluation showed that recommended improvements would provide the most cost-effective and flexible design. Following are reasons that Option B is preferred:

Redesign of US29 interchanges with the US250 Bypass and Hydraulic Road

The reconfiguration of the US29/US250 interchange supports transportation, fiscal, and urban design goals as it:
- Reduces the amount of land occupied by off/on ramps, and creates new developable land in the triangle area;

Continued
Concept Evaluation and Refinement, Continued

- Provides high-quality access to Bodo’s and nearby businesses, and creates the potential to expand the site to the north;
- Requires pedestrian and bicycle access improvements through the interchange similar to the other options, but with particularly high-quality access potential on the east side of US 29; and,
- Allows a sequence of construction that leaves the existing interchange in operation until the new interchange ramps are built, which minimizes regional delay

Construction of the Hillsdale Drive extension on the east of US29 and the county parallel connector road on the west support:

- Near- to long-term private reinvestment on both sides of US29 which will improve Charlottesville’s and Albemarle County’s sales and property tax base;
- High quality pedestrian and bicycle areas to the east and west of US29 that can be connected to transit service and multi-use paths along US29;
- Opportunities for public/private cost sharing;
- the Hillsdale extension integrates with the redesign of the US250 west-bound off-ramp, the redesign of Hydraulic, and the catalyst development opportunities in the Triangle and the Brandywine properties to significantly improve the economic and urban design character of this part of Charlottesville; and,
- Potential for mixed-use development in the area that will be more economically and environmentally sustainable.

Construction Cost:

- When design, right of way, and construction cost is considered, Option B is lowest of the alternatives;
- When recommended design enhancements are added to Options A and B, the overall costs are roughly equal, at about $130 million for all the alternatives;

- The recommended alternative is slightly more costly than Option A and slightly less costly than Option C; and,
- Overall costs could be significantly less with right of way preferred, and potential private construction of some portions in conjunction with redevelopment.

Revenue Implications

Under Option B, less than five percent of the land and building square footage are taken off the tax rolls as a result of the transportation improvements. Much of this is along existing property lines, providing increased road frontage at the same time. Property value alone is projected to increase by one- third to two-thirds (depending on the Option) within seven years of investment. The long term implications will be even more significant as redevelopment becomes a viable economic option.

<table>
<thead>
<tr>
<th>Area</th>
<th>A-1</th>
<th>A-2</th>
<th>B-1/2</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hillsdale</td>
<td>$554,400</td>
<td>$554,400</td>
<td>$554,400</td>
<td>$554,400</td>
</tr>
<tr>
<td>Kmart Area</td>
<td>$220,800</td>
<td>$194,500</td>
<td>$635,000</td>
<td>$69,000</td>
</tr>
<tr>
<td>Triangle Area</td>
<td>$480,400</td>
<td>$468,500</td>
<td>$653,700</td>
<td>$376,100</td>
</tr>
<tr>
<td>250 Interchange Area</td>
<td>$97,300</td>
<td>$97,300</td>
<td>-$31,600</td>
<td>$97,400</td>
</tr>
<tr>
<td>Best Buy Area</td>
<td>$216,900</td>
<td>$216,400</td>
<td>$216,900</td>
<td>$222,400</td>
</tr>
<tr>
<td>Holiday Inn Area</td>
<td>$27,300</td>
<td>-$28,400</td>
<td>$28,400</td>
<td>$40,000</td>
</tr>
<tr>
<td>Barracks Road Area</td>
<td>$32,461</td>
<td>$32,461</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Net New Revenue</td>
<td>$1,629,561</td>
<td>$1,534,161</td>
<td>$2,254,800</td>
<td>$1,359,300</td>
</tr>
</tbody>
</table>

Comparison of future tax revenues after transportation improvements (source: ZHA, Inc.)

Tax revenues are projected to increase under all Options. Property, meal and sales tax revenues (largely in the City) are projected to increase by $1.4 to $2.2 million per year depending upon the transportation Option selected. At an interest rate of 5 percent over 20 years this stream of new tax revenue could generate $17 to $28 million in capital. (Note: these figures do not include increases in value and revenue in County due to Albemarle Place development, which could equal these numbers).

From a real estate investment perspective Option B offers the greatest opportunity. It has minimal negative impact on existing land use, and maximum positive impact. It benefits the property owners by enhancing access, creating near term development opportunities and potential for higher density, mixed-use development in the long term.

Comparing seven year net new City revenues from impacted properties to the cost of the options demonstrates the following:

- Tax revenue associated with near term development does not fully justify the transportation improvements;
- Option B-2’s fiscal impacts almost offset the annual costs of construction in year seven;
- Option C is the most problematic from a cost/land use impact standpoint.