Rt 29 Solutions Hydraulic Planning Advisory Panel

Jul 13, 2017
Agenda item 4: Phase 1 Study Progress and Work Underway (continued)

**Planning and Design Considerations:**
- What do we value the most?
- Hydraulic Rd. Small Area Plan – Phase 1
- Gateway Development
- Pedestrian Safety
- Vertical Mix of Uses
- Traffic Operations
- Public Open Space
- Integrated Parking Solutions
- Branding
- Gateway Development
- Regulated Height

**“Other” Responses:** Sense of place, preservation of existing businesses, developer friendly regulations, density transitions, mix of uses, fine-grained urban fabric, “green” development, encouraging job development, tax revenue generation

- Priority Ranking
- Importance Ranking
What we said … HEADLINES

Hydraulic has become one of the most desirable places in Virginia to locate your business, with outstanding public spaces, restaurants and great housing options for both professionals and senior executives.

Hydraulic has become a model for sustainable, walkable and equitable living and authentic development of what was once a single-use car-centric shopping center with 100+ acres of asphalt.

The vision of Hydraulic has become a vibrant active lifestyle with convenient transportation to education and work and living for all.

Hydraulic is a model for suburban revitalization.

Hydraulic is a place for live-work-play, pedestrian friendly, family-friendly, and more easily accessible.
Agenda item 4: Phase 1 Study Progress and Work Underway (continued)

What We said…

Visual Preference Results
Agenda item 4: Phase 1 Study Progress and Work Underway (continued)
PATH or OUTCOME … thus far

… A SUMMARY OF KEY DECISIONS
Agenda item 4: Transportation Update

The study team investigated multiple grade separated concepts at the intersection of Hydraulic Road and US 29 to better understand the operational performance.
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Existing Hydraulic Rd. traffic movements at US 29

AM Vehicle Movements from Hydraulic Rd.

- Thru: 7.8%
- Right: 46.3%
- Left: 45.9%

PM Vehicle Movements from Hydraulic Rd.

- Thru: 13.3%
- Right: 43.1%
- Left: 43.7%
US 29 & Hydraulic Rd.- Possible Grade Separated Intersection
SYNCHRO software was used to simulate the intersection operations. For ease of viewing, the signalized portion of the intersection is shown above US 29. In reality, US 29 would be at existing grade and the signal would be underneath US 29.
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Pros
- Best Signal Operations
- Direct Access to NB & SB US 29 for Left Turns
- Free-flow of US 29 Traffic
- Good Signal Operations
- Serves More Vehicles on Hydraulics Rd.
- Maintains Through Mvmt Along Hydraulic
- Free-flow of US 29 Traffic

Cons
- No Through Movement allowed on Hydraulic
- Serves Less Vehicles along Hydraulic Rd.
- No Left Turn Movement Along Hydraulic
- Access to Parcels Across US 29 May be More Restrictive Than Other Alternatives
- Slightly Longer Travel Distance for Previously Left-Turning Traffic

CONCEPT 1

CONCEPT 2
All Traffic Volumes reflect April 2017 PM peak hour weekday counts

Speed of simulation is increased 4-times to allow for ease of viewing
Key take-aways from traffic operations analysis

1) The operations analysis is preliminary and based on existing traffic counts

2) The SYNCHRO analysis is focused on traffic operations and is not meant to be a geometric design tool. Therefore, no conclusions should be made about physical footprint or property impacts.

3) While there are various idiosyncrasies and anomalies with any SYNCHRO simulation, this analysis is more than sufficient to determine if these concepts deserve further investigation and additional analysis.

4) While not shown here, all three scenarios were also tested with a 25% ‘across-the-board’ increase in traffic demand with the following findings:
   - The existing conditions intersection layout exhibited significantly increased congestion
   - Concepts 1 and 2 still performed adequately
Agenda item 4: Phase 1 Study Progress and Work Underway (continued)

How VISION can work
Agenda item 4: Vision Statement: How are we doing?
CHARRETTE ACTIVITIES
REFERENCE SLIDES
Agenda item 4: Phase 1 Study Progress and Work Underway (continued)

KEY PLAN ELEMENTS:

1. “WEST” ZAN RD. TO A GRADE SEPARATED CROSSING OVER ROUTE 29, LAND BRIDGE FEATURE
2. GRADE SEPARATED INTERSECTION-HYDRAULIC RD./ROUTE 29
3. GRADE SEPARATED INTERSECTION-ANGUS RD./ROUTE 29
4. PUBLIC AMENITY/WATER FEATURE
5. PUBLIC SPACES/NEIGHBORHOOD PARKS
6. PEDESTRIAN CONNECTION TO SHOPPING

**ILLUSTRATIVE AND FOR CONCEPTUAL PURPOSES ONLY. INTENDED TO ILLUSTRATE BROAD CONCEPTS AND ALTERNATIVE APPROACHES TO FUTURE DEVELOPMENT SCENARIOS.**
Agenda item 4: Phase 1 Study Progress and Work Underway (continued)
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Agenda item 4: Phase 1 Study Progress and Work Underway (continued)

**CONCEPTUAL PLAN - PEDESTRIAN, BICYCLE, & TRANSIT**

- BUS TRANSIT LOOP
- POTENTIAL NEIGHBORHOOD TRANSIT STATION
- SIGNALIZED: GRADE SEPARATED
- EXISTING MULTI-MODAL FACILITIES
- PROPOSED MULTI-MODAL FACILITIES
- EXISTING PATH/TRAIL NETWORK
- PROPOSED PATH/TRAIL NETWORK

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Agenda item 4: Phase 1 Study Progress and Work Underway (continued)

Typical road section: **Urban Minor Arterial (Hydraulic Road)**

Typical road section: **Principal Arterial (Route 29)**
Agenda item 4: Phase 1 Study Progress and Work Underway (continued)