

BOARD OF ALDERMEN

ITEM NO. E(1)

AGENDA ITEM ABSTRACT

MEETING DATE: February 11, 2003

TITLE: Follow-Up to Smith Level Road Worksession

| | |
|---|---|
| DEPARTMENT: PLANNING | PUBLIC HEARING: YES ___ NO <u>X</u> ___ |
| ATTACHMENTS: A. Resolution B. TAB Recommendation C. Adopted Resolution – June 27, 2000 D. Alternative Design at Southern End of Project E. <i>Road Diets</i> by Dan Burden and Peter Lagerway | FOR INFORMATION CONTACT: Dale McKeel – 918-7329 |

PURPOSE

On October 15, 2002, the Board of Aldermen held a joint worksession with the Transportation Advisory Board to discuss the proposed widening of Smith Level Road from Morgan Creek to Rock Haven. This agenda item provides an opportunity for the Board of Aldermen to have a follow-up discussion on how to proceed. The Town staff has identified three options for consideration by the Board. A resolution is provided for the Board's adoption (Attachment A).

INFORMATION

The N.C. Department of Transportation (NCDOT) held a public hearing on the proposed widening of Smith Level Road on October 25, 2001. The plan presented to the public showed Smith Level Road being widened to four lanes with an 18-foot median, curb and gutter, and bike lanes and sidewalks on both sides of the road.

In response to citizen and Town comments during and following the public hearing, NCDOT prepared additional information on the project. There were also several meetings between NCDOT staff, Town staff, and Board of Aldermen members to discuss the project.

On October 15, 2002, a joint worksession was held with the Transportation Advisory Board (TAB) to meet with NCDOT staff and review the information that has been compiled. The abstract from the October 15 worksession provides a history and status of the project.

Following the joint worksession, the Board of Aldermen adopted a resolution accepting the report and referring it to Town staff and the TAB for a recommendation within 30 days. The Transportation Advisory Board discussed the project at its meetings on November 7 and November 21, and adopted a resolution on November 21. The TAB resolution recommends that

the Board of Aldermen reject NCDOT's proposal for widening Smith Level Road to four lanes and also provides additional comments on the project (see Attachment B).

OPTIONS FOR CONSIDERATION

Town staff have identified three options for consideration by the Board of Aldermen.

OPTION 1: ACCEPT THE PROPOSED FOUR-LANE DESIGN.

The Board of Aldermen's first option is to accept the design proposed by NCDOT. Much of the design work for the project has already been completed and right-of-way acquisition was scheduled to begin this fiscal year. Selection of this option would allow NCDOT staff to finish the design work and begin the process of right-of-way acquisition and construction.

It should be noted that the Board of Aldermen on June 27, 2000 adopted a resolution endorsing a four-lane median divided road with bike lanes and sidewalks (Attachment C). However, the only other choice presented to the Town at that time was a five-lane roadway (two lanes in each direction with a center two-way left-turn lane).

NCDOT's preference for a four-lane design is based on the traffic projections for the year 2025. The traffic projections developed by NCDOT indicate that 29,400 vehicles per day will travel on Smith Level Road in 2025 in the section between Willow Oak Drive and BPW Club Road, assuming the road is four lanes with 45 mph speed limit. NCDOT engineers have said that they generally recommend a four-lane roadway when daily traffic volumes exceed a certain number, such as 18,000 vehicles per day.

OPTION 2: PROPOSE AN ALTERNATIVE TO NCDOT'S PROPOSAL

The Board of Aldermen's second option is to propose an alternative to NCDOT's design. Selection of this option would require additional staff time and resources and further delay the implementation of any improvements to Smith Level Road. Previous discussions indicate that NCDOT may not be willing to approve a design with fewer than four lanes between Morgan Creek and Culbreth Road.

However, new information indicates that traffic volumes have decreased on Smith Level Road in the past year, and new projections for the year 2025 are also much lower than previous projections. The case could be made that the use of Transportation Demand Management (TDM) measures is already affecting travel behavior in Chapel Hill and Carrboro and in the Smith Level Road corridor. TDM measures are intended to maximize the use of the existing transportation system by providing a variety of mobility options for those who wish to travel.

With the advent of fare-free transit and reduced parking on campus, bus ridership has increased in the Smith Level Road corridor. The following chart shows that ridership since the advent of fare-free in January 2002 has been much higher on the J bus, the primary route serving the Smith Level Road area.

| | 2001 | 2002 | Change | Percent Increase |
|--|------|------|--------|------------------|
|--|------|------|--------|------------------|

| | | | | |
|------------------|-------|-------|---------|--------|
| | 21,17 | 37,34 | | |
| July | 2 | 7 | +16,175 | 76.40% |
| | 35,18 | 53,85 | | |
| August | 4 | 0 | +18,666 | 53.05% |
| September | 44,12 | 67,42 | | |
| | 3 | 0 | +23,297 | 52.80% |
| | 48,18 | 72,05 | | |
| October | 7 | 8 | +23,871 | 49.54% |
| | 39,60 | 59,65 | | |
| November | 4 | 3 | +20,049 | 50.62% |
| | 23,74 | 35,36 | | |
| December | 0 | 0 | +11,620 | 48.95% |

Likewise, traffic counts taken by the Town of Carrboro suggest that the number of vehicles per day on Smith Level Road has fallen over the past year. Counts taken by the Town on October 30, 2002 and December 3, 2002 recorded 15,733 and 15,700 vehicles per day respectively between Willow Oak Drive and BPW Club Road. In contrast, counts by NCDOT in February 2002 recorded 20,800 vehicles per day on this section. The Town's counts are 24 percent lower than those recorded by NCDOT about a year ago.

Jim Zimmerman, a consultant with Kimley-Horn and Associates, recently told a committee of the UNC Board of Trustees that the introduction of fare-free transit, along with the massive amount of construction on campus, has dramatically changed the way people get around. According to the *Chapel Hill Herald* [1-22-03], Zimmerman told the Committee, "There [have] been significant changes in driving behavior. It's just amazing what not charging people to get on the bus will do for people getting on the bus, when it's a good alternative."

In the long-term, it also appears that TDM measures can influence the amount of traffic on Smith Level Road. The model used for the 2025 long-range plan adopted by the Durham-Chapel Hill-Carrboro MPO in December projects about 21,000 vehicles per day in the year 2025 on Smith Level Road between Willow Oak Drive and BPW Club Road. The model assumes fare free transit, additional bike and pedestrian facilities on Smith Level Road, and additional park and ride lots in northern Chatham County. The traffic model used by NCDOT predicts that 29,400 vehicles per day will travel on this section of Smith Level Road in the year 2025 (the model used by NCDOT did not include fare-free transit or additional park and ride options). Note also that both models assume a four-lane road; if a road with less than four lanes were modeled, the number of vehicles per day would decrease.

If Smith Level Road is expected to carry 21,000 vehicles per day in 2025 (rather than 29,400), the argument in favor of four lanes is diminished. As noted previously, NCDOT engineers have said that they generally recommend a four-lane roadway when daily traffic volumes exceed a certain number, such as 18,000 vehicles per day. However, in reviewing information on the subject, there are examples of two-lane and three-lane roads that are carrying 20,000 to 25,000 and even 30,000 vehicles per day (for instance, see Attachment E, *Road Diets* by Dan Burden and Peter Lagerway). A feasibility study of the Hillsborough Street reconstruction in Raleigh states that the two-lane roadway with median (reduced from four lanes) is expected to carry about 30,000 vehicles per day. It would be useful to determine the factors that account for the high capacity of these facilities, and whether these factors are applicable to the Smith Level Road corridor.

Also note that Smith Level Road is classified as a Minor Arterial on the North Carolina Statewide Functional Classification System. Minor arterials are intended to provide a somewhat lower level of travel mobility than principal arterials. It is reasonable that Smith Level Road be designed to a lower standard than a primary route, such as US 15-501.

If the Board of Aldermen desire to propose an alternative to NCDOT's design, it may be useful to review the Chapel Hill Town Council's actions on the proposed widening of Weaver Dairy Road. Originally Weaver Dairy Road was to be widened four lanes with a median. In April 2002, the Chapel Hill Council adopted a resolution requesting that NCDOT consider a three-lane roadway rather than four lanes with a median. In May, Transportation Secretary Lyndo Tippet responded to the Council's resolution by reiterating the State's preference for the four-lane design.

A Mayor's Committee was then created to further consider improvement alternatives for Weaver Dairy Road. The committee met during the summer of 2002 and concluded that a highly efficient three-lane cross section could meet the objectives of the Town and NCDOT. Mayor Kevin Foy met with State Transportation Board Member Douglas Galyon to discuss the Committee's plan. The Town Council endorsed the three-lane proposal, Mr. Galyon forwarded the plan to NCDOT for review, and a public hearing was held in November. Chapel Hill is still awaiting word from NCDOT on whether the Town's proposal will be accepted.

If the Board wishes to propose an alternative to NCDOT's design, it is also recommended that the Durham-Chapel Hill-Carrboro Transportation Advisory Committee and the Town of Chapel Hill be involved. Both entities have played a role in endorsing the project, and Chapel Hill's jurisdiction extends to Smith Level Road in the vicinity of the Morgan Creek Bridge.

TWO-LANE ROADWAY AND ROUNDABOUT

As part of the consideration of Option 2, please also note that NCDOT staff is already willing to reduce the road from four lanes to two lanes south of Culbreth Road, where the projected 2025 traffic volumes are lower.

At an August 15, 2002 meeting in Raleigh, State officials said they are comfortable with a four-lane roadway between the Morgan Creek bridge and Culbreth Road, with a two-lane roadway south of Culbreth Road. In response to discussions at that meeting, the State has also determined that a single-lane roundabout at the intersection of Smith Level and Rock Haven Road would adequately handle projected 2025 traffic volumes. A preliminary design of such a roundabout is attached (Attachment D).

There is currently not a traffic signal at the Rock Haven-Smith Level Road. Based on projected traffic volumes and anticipated future development, it is likely that some form of traffic control – either a signal or a roundabout – will be needed at the intersection in the future. Research indicates that a roundabout at this location may have advantages over a traffic signal. These advantages include the following:

- Fewer overall accidents and fewer accidents resulting in injuries.
- Fewer delays, resulting in a reduction in noise pollution and air pollution

- Lower vehicle speeds through the intersection, resulting in a safety benefits for pedestrians and bicyclists.
- Traffic calming and visual quality enhancement.
- Reduced amount of paved area.

In reviewing the possibility of a roundabout as part of the project, please note the TAB's comment: "It is encouraging that NCDOT added a roundabout to the project at Rock Haven Road and a roundabout should also be considered at the Culbreth Road intersection. However, a careful engineering and suitability analysis is necessary when considering a roundabout as part of this project."

OPTION 3: DISCONTINUE WORK ON THE PROJECT

The Board of Aldermen's third option is to request that NCDOT discontinue work and drop the project. However, there is a strong need and public support for the bike lanes, sidewalks, and other pedestrian improvements to be provided as part of the project. There will also be a need for intersection improvements along Smith Level Road in the future. If the project is dropped, it is unclear how needed bike facilities, pedestrian facilities, and intersection improvements will be provided.

OTHER ISSUES FOR CONSIDERATION

If either Option 1 or Option 2 is chosen, there are several other issues that need to be discussed with NCDOT staff and addressed as part of the final design for the project. These issues have been raised at public meetings, in meetings with NCDOT staff, and by the Transportation Advisory Board. In conjunction with the final decision about the cross-section, careful consideration of these issues will be needed. The following is a list of some of these issues:

- Include improvements to the operation of the interchange at Smith Level Road and NC 54 Bypass as part of the project.
- Include bicycle lanes and sidewalks on both sides of Smith Level Road including the Morgan Creek bridge.
- Consider extending the right southbound lane across the bridge to Willow Oak Lane, as proposed by the Berryhill neighborhood in its presentation to the TAB.
- Determine whether to provide a median opening at the intersection of Smith Level Road and Willow Oak Lane.
- Add bikelanes and sidewalks to the east side of the existing bridge over Morgan Creek on Smith Level Road and other bicycle and pedestrian improvements in the vicinity of NC 54.
- Incorporate context-sensitive design and traffic calming principles into the design of the project.
- Ensure that emergency response and public safety needs are addressed in the design.
- Use recycled materials in all aspects of the project.
- Review the design to ensure a safe and functional pedestrian environment along Smith Level Road.

- Incorporate recommendations from the traffic operations study at the Frank Porter Graham site.
- Coordinate signal timing on Smith Level Road.
- Reduce the speed limit to 35 mph / reduce the design speed.
- Incorporate additional landscape plantings into the project.
- Replace fencing removed by the project.

FISCAL IMPACT

A fiscal impact of moving forward with this project is the cost of sidewalk construction. Under NCDOT policies, Carrboro will be responsible for paying 30 percent of the construction cost for new sidewalks constructed within the town limits or extra-territorial jurisdiction area. NCDOT will pay 100 percent of the cost of replacing any existing sidewalks that are removed by the project.

RECOMMENDATION

The Administration recommends that the Board of Aldermen adopt the attached resolution receiving the report and selecting one of the options identified by staff or an alternative approach (Attachment A).