ATTACHMENT 5

TECHNICAL MEMORANDUM

Data Collection

HNTB field personnel collected data at the intersections of Eubanks Road/Northwoods Drive and Northwoods Drive/Martin Luther King Jr. Boulevard on Wednesday, November 2, 2005 to account for cut-through trips on Northwoods Drive. The cut-through under study was the eastbound Eubanks movement onto Northwoods Drive and finally onto MLK Boulevard. This movement would bypass the traffic signal at Eubanks Road/MLK Boulevard. No reverse movement is possible, due to the median along MLK Blvd that restricts left-turn access into Northwoods Drive. AM, Noon, and PM peak two hour periods were studied. Data was collected from 7:00-9:00 for the AM peak, 11:30 AM to 1:30 PM for the Noon peak, and 4:00 to 6:00 for the PM peak.

Vehicles were classified by field observation at each intersection. Classification categories attempted to garner as much information as possible about a particular vehicle (color, make, model, license plate number) as possible as the vehicle passed by. The time that the vehicle passed by was also recorded. Comparison of the raw field data were then made to compare information at each intersection. A vehicle recorded at each intersection, with a similar time, was considered a "cut-through" trip.

Peak hour data for the intersection at Eubanks Road and MLK Boulevard was also obtained to make a comparison between the total number of cut-through trips and trips making a right-turn from Eubanks Drive onto MLK Boulevard. New traffic count information from the 2005 Chapel Hill-Carrboro Mobility Report Card was not available at the time of this study. Peak hour traffic counts for the 2005 *Chapel Watch Village Traffic Impact Study* were used instead. These peak hour counts were originally collected by HNTB North Carolina, PC in 2003 and updated to 2005 via the use of a 3 percent per year growth factor over two years.

Study Results

Study results from the raw data collection information are presented in **Tables 1 to 3** below. Overall traffic volumes at the entrances/exits on Northwoods Drive is light, even during the peak hours. Few overall cut-through trips were noted.

Table 1. Eastbound Eubanks Road to Southbound Northwoods Drive

Time Period	Total Vehicles	Cut Throughs	% Cut Throughs
AM Peak	6	3	50%
Noon Peak	9	0	0%
PM Peak	16	1	6%

Table 2. Eastbound Northwoods Drive to Southbound MLK Boulevard

Time Period	Total Vehicles	Cut Throughs	% Cut Throughs
AM Peak	46	3	7%
Noon Peak	12	0	0%
PM Peak	24	1	4%

Table 3. Cut Through Volume Vs. Right-Turn Volume at Eubanks Road/MLK Blvd

Time Period	Eastbound Eubanks Right-Turn Volume	Cut Through Volume	Total Volume	Percent Cut Through
AM Peak	76	3	79	4%
Noon Peak	70	0	70	0%
PM Peak	61	1	62	2%

The relative percentage of cut-through trips in relation to total traffic volume on Northwoods Drive is quite low, even though total traffic volume on Northwoods Drive is light. 50 percent of traffic entering Northwoods Drive from Eubanks Road in the AM peak was considered to be cut-throughs. However, only 6 total vehicles were recorded at this intersection making a right-turn.

The relative percentages of cut-throughs in comparison to total traffic making a right-turn from Eubanks Road to MLK Boulevard were also very low. In general, the data collected shows that Northwoods Drive is not being used as a major cut-through route currently, with only four estimated cut-through trips made over the three peak travel periods of a typical weekday.

Discussion/Conclusions

This study and the method of collecting data have some limitations in determining if, in fact, a trip that was recorded as a cut-through was really trying to avoid the traffic signal at Eubanks Road/MLK Boulevard and save travel time or if it was a driver who lost, touring local neighborhoods, etc... The only completely accurate method to determine trip intent would be to survey each driver making a right-turn at Eubanks Road and inquire as to whether or not they were using Northwoods Drive to save travel time/avoid delay at the upstream signal. This method would have the obvious drawback of biased answers from drivers, so it was not employed in the data collection methodology. If, in fact, any erroneous cut-through trips were counted, the final results conservatively estimate the number of cut-through trips.

Ultimately, the study only presents data for existing conditions, any projection of additional cut-through traffic that may occur in future scenarios is speculative. Additional traffic using Eubanks Road that would be generated from the proposed

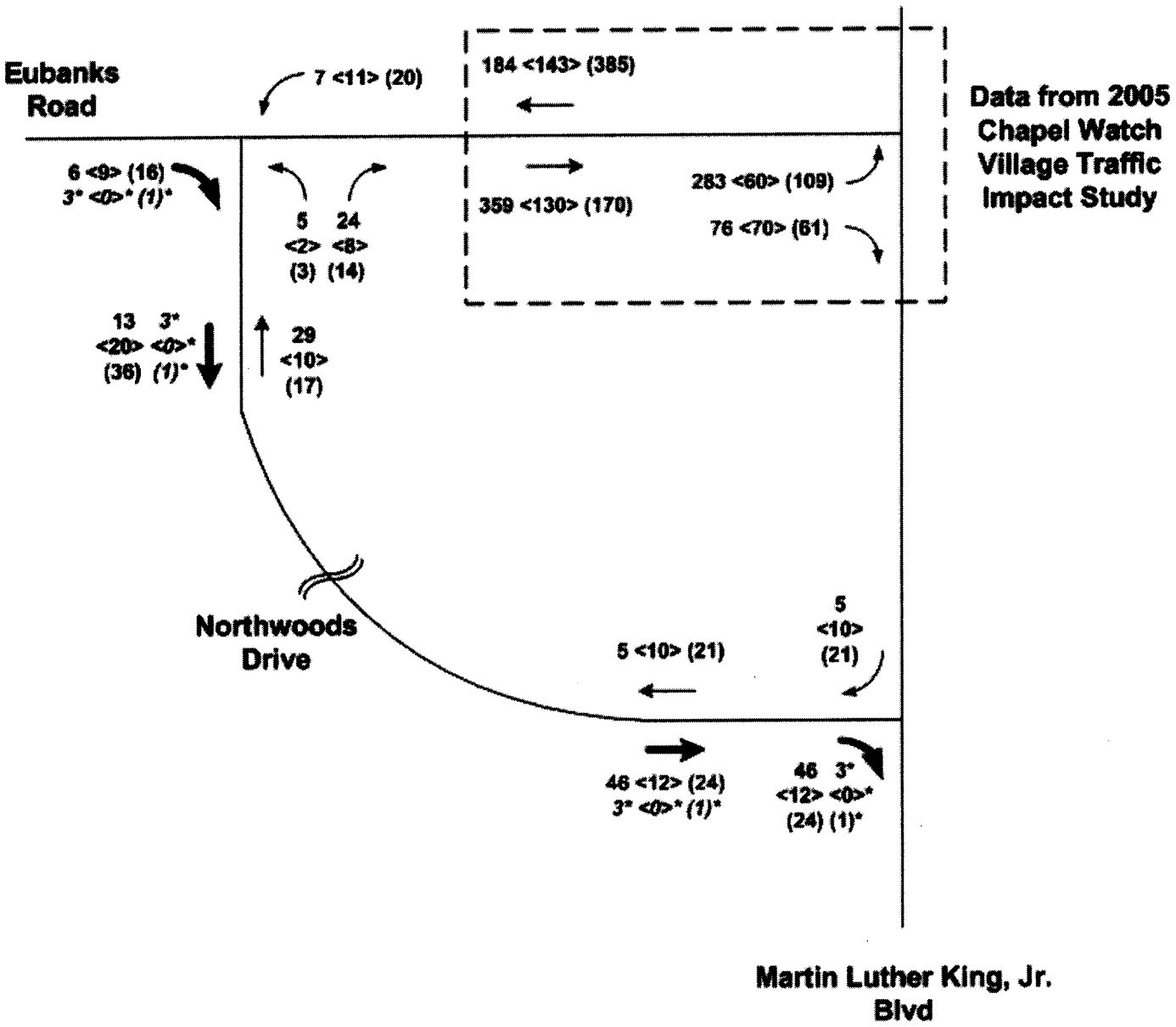
Chapel Watch Village site is not expected to need to use Northwoods Drive as a major cut-through to reach MLK Blvd. These site-related traffic volumes (18 AM peak, 11 Noon Peak, 7 PM peak) estimated to use Eubanks Road to access MLK Boulevard southbound are not significant. The 2005 traffic impact study for Chapel Watch Village identified the need to lengthen the eastbound left-turn bay at Eubanks Road/MLK Boulevard regardless of the whether or not Chapel Watch Village is built. If this improvement is made, there will be adequate capacity and little delay to right-turning traffic. Without this improvement, there may be times where the short left-turn bay may block the opportunity for right-turning vehicles to use their exclusive turn lane. This may result in added delay for these vehicles and the possibility that, if delays were to become extremely excessive, that traffic would seek alternate routes to southbound MLK Boulevard.

= Cut-Through Trip Direction

LEGEND

XXX = AM Peak
<XXX> = Noon Peak
(XXX) = PM Peak

* - Estimated Cut Through Trips



	Town of Chapel Hill Northwoods Cut-Through Study
	2005 PEAK HOUR TRAFFIC VOLUMES
NOT TO SCALE	DATE: November, 2005
	FIGURE 1

HNTB