



**MEMORANDUM**

**TO:** George Phillips

Loudoun County

**CC:** Art Smith

Loudoun County

John Massey

CESP, Inc.

Mark Looney

Cooley Godward Kronish LLP

Jason Rogers

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**FROM:** Christopher Tacinelli

Cheryl Sharp

**DATE:** May 25, 2007

**SUBJECT:** *Route 50 Medical Campus – Traffic and Trip Generation Assessment*



**INTRODUCTION**

The purpose of this memorandum is to summarize a trip generation comparison between the approved and proposed conditions for the proposed Route 50 Medical Campus. The subject site is approximately 24 acres located along the north side of Route 50, west of the existing Gum Spring Road, and east of the future Stone Springs Boulevard (relocated Gum Spring Road), in Loudoun County Virginia. The application is a Special Exception for hospital use and is contingent on the rezoning application ZMAP 2006-0007 (Glascok Field at Stone Ridge), which requests that the parcel be rezoned to PD-OP. The proposed plan calls for a hospital, an associated helistop and outpatient medical care facilities. This use will generate less traffic than the by-right office use requested as part of the ZMAP 2006-0007. The project is scheduled to be complete with full build-out of the development anticipated between 2015 and 2020. A regional map showing the location of the site is shown in Figure 1.

At the transportation scoping meeting, it was decided that a full traffic study would not be necessary if the proposed development plan would generate fewer trips than the development plan proposed with ZMAP 2006-0007, since a traffic study is being performed for the rezoning application. The proposed special exception development will generate fewer vehicle trips, therefore the results from the rezoning application represent a worst-case scenario for improvements required for the roadway network to operate at acceptable levels. A copy of the agreed upon scope of the study is attached.

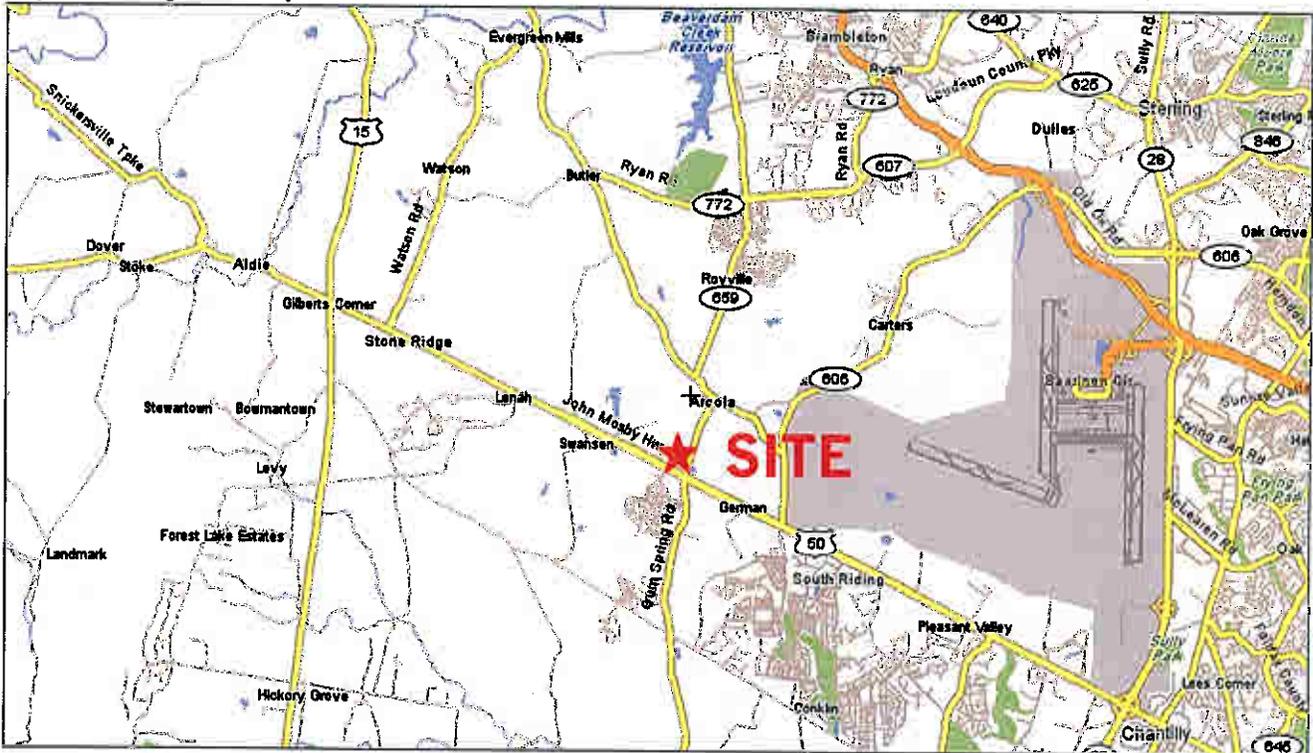
## EXISTING CONDITIONS

### *Existing Roadway Network*

Route 50 (John Mosby Highway) is an east-west highway that runs through Northern Virginia. It is generally a four to six lane median-divided minor arterial with variable design speed. In the vicinity of the proposed site, the road is four lanes with wide medians and turning lanes at intersections. The current posted speed limit on this road is 55 mph.

Route 659 (Gum Spring Road) is generally a two lane undivided local access road with variable design speed. In the vicinity of the site, the road is two lanes with 8 to 10-foot travel lanes. The current posted speed limit on this road is 35 mph north of Route 50.

**Figure 1: Regional Map and Site Location**



### *Hazardous Locations*

A field inspection was conducted of the roadways and intersections in the vicinity of the site. No hazardous conditions were discovered as a result of the field inspection.

## CURRENT REZONING

As mentioned previously, this Special Exception is contingent on the rezoning application ZMAP 2006-0007 (Glascock Field at Stone Ridge), which requests that the parcel be rezoned to PD-OP. Upon approval of the Rezoning application, the subject site will be allowed to develop with up to 464,000 square feet of general office use. Therefore, for the purposes of this study, the office use was assumed to be an approved use.

Table 1 below summarizes the total number of trips that could be generated by the approved development. The trips were calculated based on the Institute of Transportation Engineers' (ITE) Trip Generation, 7<sup>th</sup> Edition.

**Table 1: Site Trip Generation for Approved Land Use**

Land Use	ITE Code	Size	Units	Weekday						
				AM Peak Hour			PM Peak Hour			Daily Total
				In	Out	Total	In	Out	Total	
<b>APPROVED</b>										
General Office Building	710	464	kSF	565	76	641	102	497	599	4,350

## PROPOSED DEVELOPMENT CONDITIONS

### *Future Roadway Network*

According to the Loudoun County Countywide Transportation Plan, Route 50 will ultimately be six-lane limited access median-divided rural arterial, with consideration for bicycle accommodation. Grade separated interchanges will be constructed at Route 50 and relocated Gum Spring Road as well as neighboring Route 50 and Route 606.

Contingent with ZMAP 2006-0007, the intersection of Route 50 and Gum Spring Road will become a right-in/right-out access once the relocation of Gum Spring Road has occurred. Once Stone Springs Boulevard (Gum Spring Road Relocated) is constructed, it will become the continuous route upon the occurrence of certain future events. At that time, existing Gum Spring Road may be terminated. If this happens, the existing southern portion of Route 659 will "T" into Stone Springs Boulevard.

Access to the site will be provided along Route 50 at the existing Gum Spring Road and the proposed Stone Springs Boulevard (relocated Gum Spring Road). The Route 50 access may be removed once Route 50 becomes limited access.

### Proposed Land Use

The proposed development plan for the Route 50 Medical Campus is to construct a 108-bed hospital with an associated helistop and outpatient medical care facilities.

Table 2 below summarizes the total number of trips that could be generated by the proposed development. The trips were calculated based on the Institute of Transportation Engineers' Trip Generation, 7<sup>th</sup> Edition.

**Table 2: Site Trip Generation for Proposed Land Use**

Land Use	ITE Code	Size	Units	Week day						
				AM Peak Hour			PM Peak Hour			Daily Total
				In	Out	Total	In	Out	Total	
<b>SPECIAL EXCEPTION</b>										
Hospital	610	108	Beds	87	36	123	51	90	141	1,276

### APPROVED VS. PROPOSED DEVELOPMENT CONDITIONS

Table 3 represents the difference between the current approved development plan and the proposed development plan for Route 50 Medical Campus in Loudoun County, Virginia.

**Table 3: Approved Condition vs. Proposed Condition**

Land Use	ITE Code	Size	Units	Week day						
				AM Peak Hour			PM Peak Hour			Daily Total
				In	Out	Total	In	Out	Total	
<b>APPROVED</b>										
General Office Building	710	464	kSF	565	76	641	102	497	599	4,350
<b>SPECIAL EXCEPTION</b>										
Hospital	610	108	Beds	87	36	123	51	90	141	1,276
<i>Difference in Trips (Special Exception Minus Approved)</i>				-478	-40	-518	-51	-407	-458	-3,074
<i>% Difference</i>				-85%	-53%	-81%	-50%	-82%	-76%	-71%

\*Trips based on ITE's Trip Generation, 7<sup>th</sup> Edition

As indicated in Table 3, the proposed development plan for the Route 50 Medical Campus will generate less traffic as compared to the currently approved land use. The proposed plan will generate approximately 81% fewer trips than the currently approved land use during the AM peak hour, 76% fewer trips during the PM peak hour, and 71% fewer trips throughout the day.

## CONCLUSION

This memorandum presents the findings of a traffic impact brief for the proposed medical hospital, helistop and outpatient medical care facilities at Glascock Field at Stone Ridge in Loudoun County, Virginia. The analysis presented in this memorandum supports the following major conclusions:

- The proposed development plan will generate fewer trips than the approved development plan, thereby having less of an impact on the surrounding roadway network.
  - The proposed use will generate approximately **81% fewer trips** during the AM Peak Hour.
  - The proposed use will generate approximately **76% fewer trips** during the PM Peak Hour.
  - The proposed use will generate approximately **71% fewer trips** throughout a typical weekday.
- Access to and from the site will be via two entrances: Route 50 at the existing Gum Spring Road and the proposed Stone Springs Boulevard (relocated Gum Spring Road). The Route 50 entrance may be removed in the future when Route 50 becomes a limited access highway.

# Appendix



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Figure 1: Area Map and Site Location

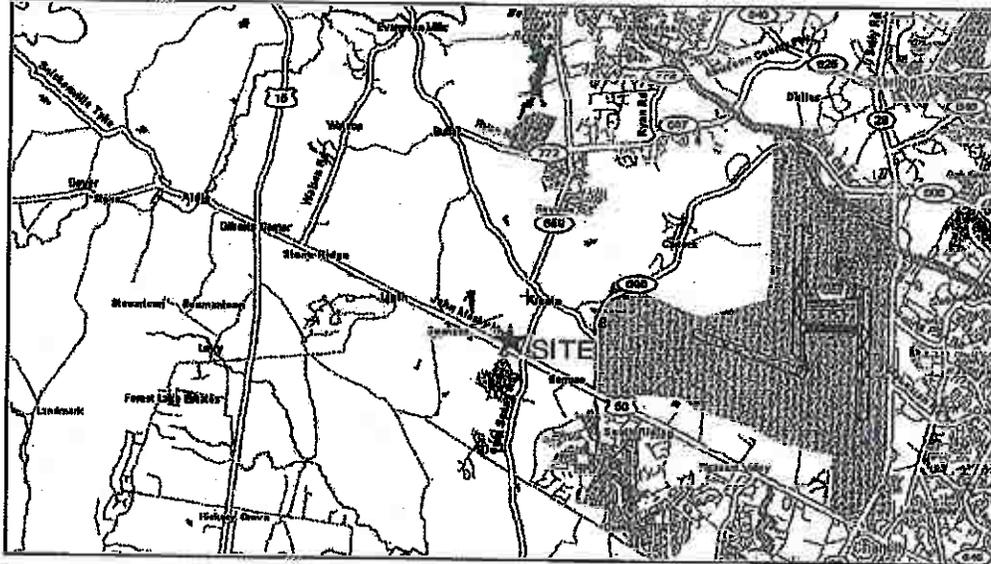


Table 1: Trip Generation Comparison

Land Use	ITE Code	Size	Units	Week day							
				AM Peak Hour			PM Peak Hour			Daily Total	
				In	Out	Total	In	Out	Total		
<b>REZONING (GENERAL OFFICE)</b>											
General Office Building	710	464 kSF		506	76	541	102	487	599	4,360	
<b>SPECIAL EXCEPTION AFTER REZONING (HOSPITAL)</b>											
Hospital	610	108 Beds		87	36	123	51	90	141	1,276	
Difference in Trips (Special Exception Minus Rezoning)											
				-478	-40	-518	-51	-407	-458	-3,074	
% Difference				-86%	-53%	-81%	-50%	-82%	-76%	-71%	

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Site Access: Access to the proposed development will be provided via Route 50 at the existing Gum Spring Road and the proposed Stone Springs Boulevard (relocated Gum Spring Road). The detailed assessment will assume that Route 50 will become a limited access highway in the future.

Traffic Counts: As stated previously, the traffic generated by the hospital will be less than the amount of traffic generated by the allowed office use. As was discussed at the scoping meeting, a memorandum summarizing/ describing the trips generated by the proposed site, site access, and any particular notable items in the transportation network will address all of the County's Office of Transportation Service's issues for this Special Exception application in lieu of a full traffic study. Traffic counts will not be performed, but field observations of existing conditions will be documented for roads adjacent the site for roadway lane configurations, traffic controls, speed limits, general roadway design characteristics, and surrounding land uses.

Safety issues MRP

Recommendations: We will not be providing any additional recommendations through this memorandum. As the proposed hospital will be generating fewer trips than the office use allowed in the proposed PD-OP zone, the traffic study currently being performed for ZMAP 2006-0007, showing the recommendations with the office trips, would be a more intense scenario. This Special Exception application is subject to ZMAP 2006-0007 and all its proffers.

Please review the traffic assessment scope described above for the proposed development and sign for agreement and approval to continue with the study.

Loudoun County's Representative Signature/ Date: [Signature] 5/11/07

Traffic Consultant's Representative Signature/ Date: [Signature] 5/09/07

VDOT's Representative Signature/ Date: \_\_\_\_\_