

TECHNICAL MEMORANDUM - DRAFT

To
Kumar Neppalli
Traffic Engineer
Town of Chapel Hill

From
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HNTB North Carolina, P.C.

Cc
HNTB Project File: 38435

Subject
Glen Lennox Redevelopment TIS –
Town-Requested Internal Traffic
Volume Analysis

Date
03/25/2014

Background

Per request from the Town of Chapel Hill and per discussions between the Grubb Properties (Applicant), Town of Chapel Hill, and HNTB staff on March 21, 2014, the following memorandum summarizes information, assumptions, and analysis results for internal daily and PM peak traffic volume estimation related to the *Glen Lennox Redevelopment Traffic Impact Study*, originally submitted to the Town of Chapel Hill on October 28, 2013.

Methodology

Traffic volume development spreadsheets, distribution and assignment assumptions for the 2028 full build-out analysis scenario in the original TIS were reviewed to develop estimates of traffic volumes on streets internal to the proposed Glen Lennox Redevelopment, and include the following assumptions.

- The redevelopment concept plan utilized in the original TIS was reviewed for potential driveway access locations for each development sub-phase, based on driveway and surface/structured parking locations shown on the concept plan.
- Access routes for each sub-phase were calculated to connect driveway access locations and potential external access points. The external access points (developed in the original TIS) are Hamilton Road (south – along NC 54), Audley Lane, Muirhead Road (new connection to US 15-501), Berkley Drive, and Hamilton Road (north). No new daily or PM peak hour distributions/assignments were made for other potential roadway connections such as Hayes Road, Brandon Road or Flemington Drive. It is assumed that only small percentages of redevelopment traffic would utilize these facilities.
- 2028 Daily bi-directional traffic volume assignment data was distributed for each redevelopment sub-phase on the proposed internal street network and assigned to respective sub-phase driveway access points. Internal routing assumed the most direct route(s) from external connections to internal driveway access points. Internal trips for each sub-phase were aggregated by entering/exiting flows along each internal street link. Internal calculations were checked for consistency with external Daily traffic assignments completed for the original TIS.
- 2028 PM peak hour internal traffic volumes were estimated for each redevelopment sub-phase using previous distribution and assignment methodologies at external access points in the original TIS. Internal routing assumed the most direct route(s) from external connections to internal driveway access points. Internal trips for each sub-phase were aggregated by entering/exiting flows along each internal street link.

Internal calculations were checked for consistency with external PM peak hour traffic assignments completed for the original TIS.


- Any existing Daily or PM peak hour traffic volumes on internal streets were not added to the internal street estimates made for this analysis. The methodologies for redevelopment trip generation calculations include the effect of removing existing trip generation and applying “net” redevelopment trips, which would account for changes in internal traffic flow. As previously mentioned a small amount of internal traffic – related to existing Glen Lennox areas that are not redeveloped, nearby neighborhood traffic, or any “cut-through” traffic – may exist after the full redevelopment scenario, but based on external traffic counts made in 2013 at nearby study area intersections along Hayes Road, Brandon Road, Flemington Drive and Hamilton Road north of the project, these traffic volumes are not expected to be significant.
- The two current site driveway access points along NC 54 just west of Hamilton Road, and their existing and projected future volumes (that would serve redevelopment Phase 1B), were not included in this analysis since these existing and future traffic volumes would be served by surface parking along NC 54 and are not expected to have trip assignments affecting internal roadways.

Results

2028 Daily and PM Peak hour internal street traffic volume estimates are shown in **Figures 1 and 2** for all potential internal street links within the Glen Lennox Redevelopment. Any links within or adjacent to the development that do not have Daily or PM peak hour data listed are not anticipated to have site-related traffic directly impacting them, though it is likely that a minor amount of site-related traffic, traffic from adjacent land uses bordering Glen Lennox, or any neighborhood cut-through traffic, may use these roadways and contribute to daily and peak hour traffic volumes internal to the site.

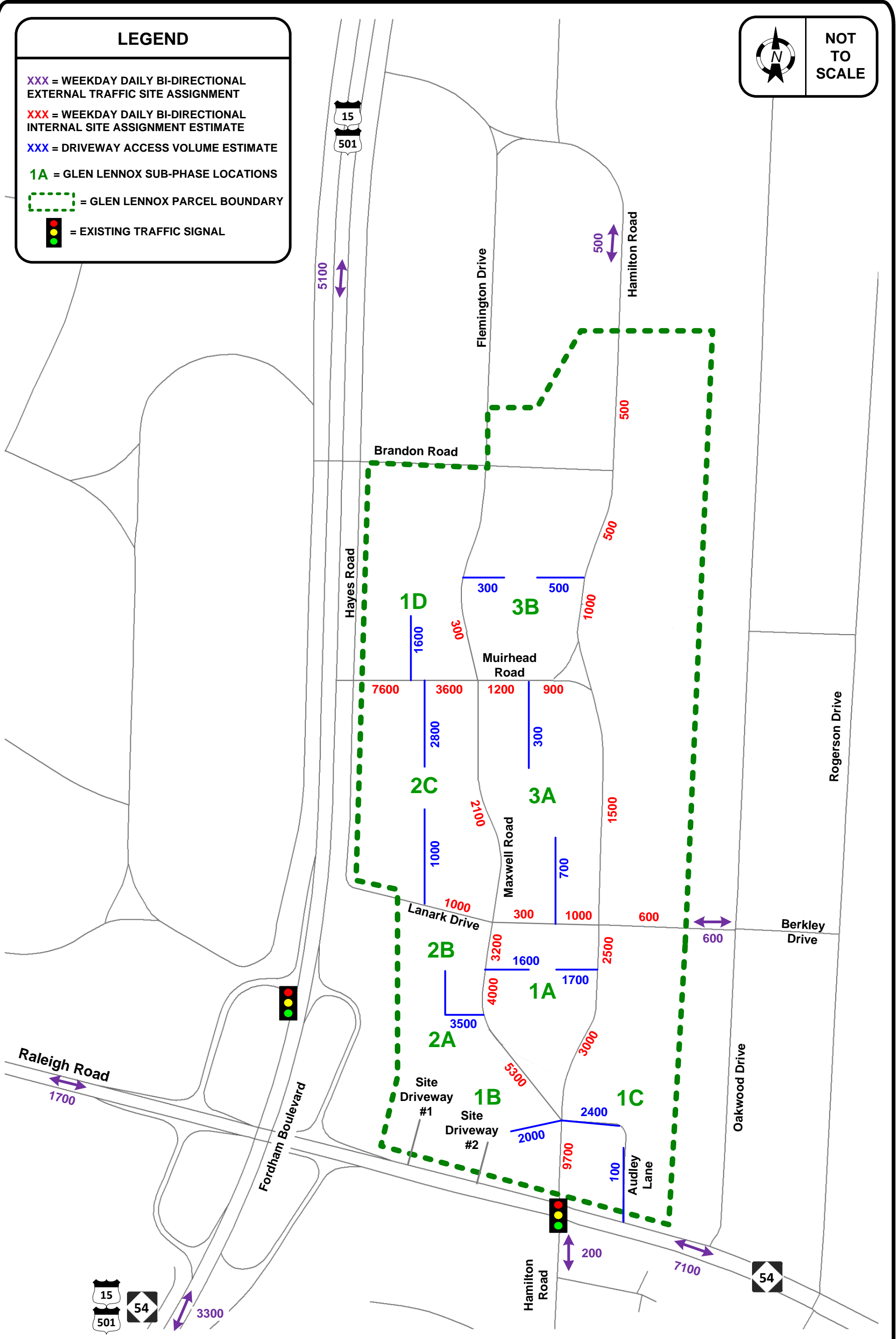
No additional breakout of individual intersection turning movement volumes, internal peak hour intersection capacity analyses, or daily link segment volume/capacity estimates were done for this technical memorandum. Refer to the original *Glen Lennox Redevelopment TIS* data and analyses related to these topics for all external access intersections that will serve the Glen Lennox site.

LEGEND

- XXX = WEEKDAY DAILY BI-DIRECTIONAL EXTERNAL TRAFFIC SITE ASSIGNMENT
- XXX = WEEKDAY DAILY BI-DIRECTIONAL INTERNAL SITE ASSIGNMENT ESTIMATE
- XXX = DRIVEWAY ACCESS VOLUME ESTIMATE
- 1A = GLEN LENNOX SUB-PHASE LOCATIONS
- = GLEN LENNOX PARCEL BOUNDARY
-  = EXISTING TRAFFIC SIGNAL



NOT TO SCALE




**Glen Lennox Redevelopment
Traffic Impact Study**


2028 INTERNAL BI-DIRECTIONAL DAILY TRAFFIC VOLUME ESTIMATES

DATE: March 2014

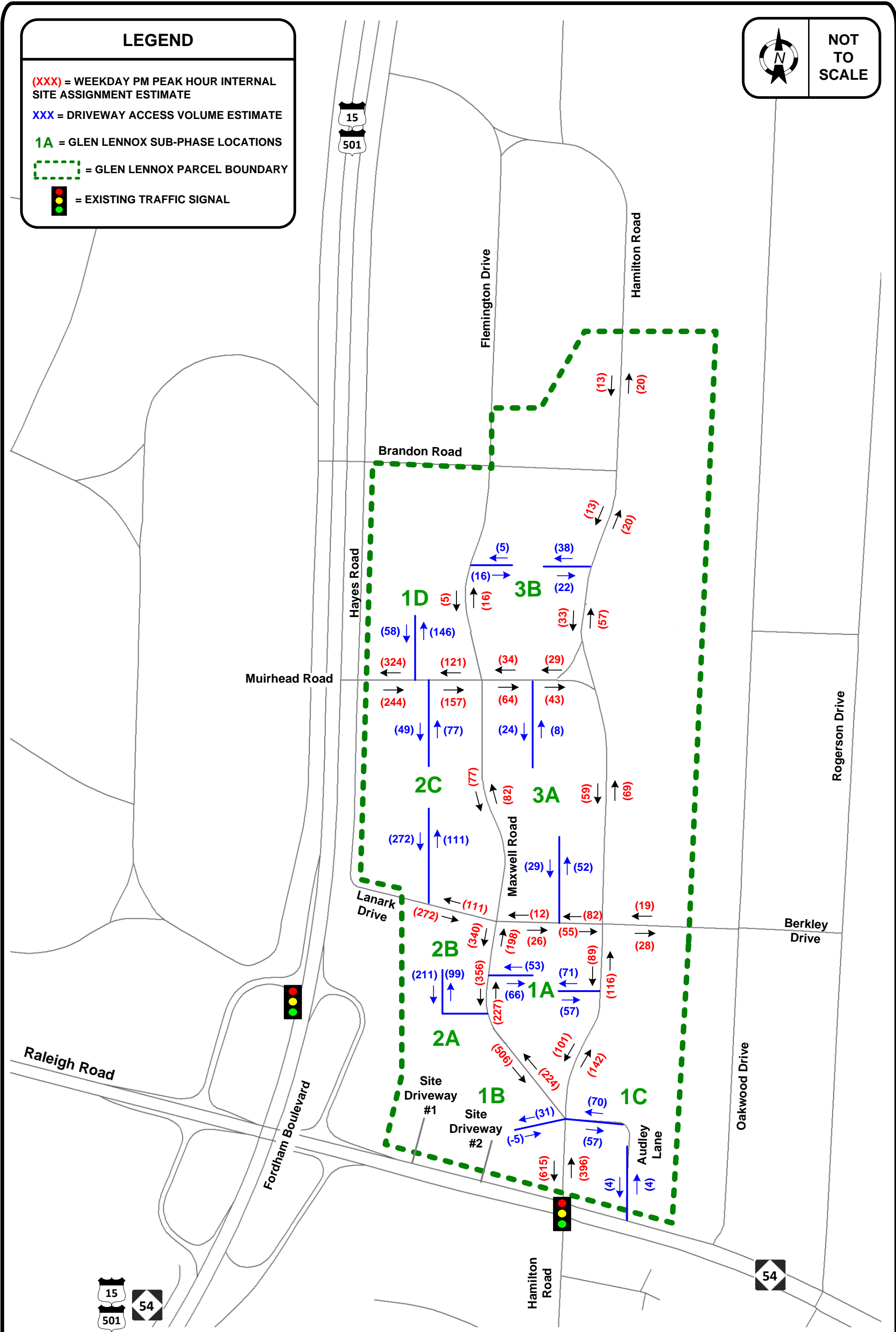
FIGURE 1

LEGEND

- (XXX) = WEEKDAY PM PEAK HOUR INTERNAL SITE ASSIGNMENT ESTIMATE
- XXX = DRIVEWAY ACCESS VOLUME ESTIMATE
- 1A = GLEN LENNOX SUB-PHASE LOCATIONS
- = GLEN LENNOX PARCEL BOUNDARY
-  = EXISTING TRAFFIC SIGNAL



NOT TO SCALE



**Glen Lennox Redevelopment
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2028 PM PEAK HOUR INTERNAL TRAFFIC VOLUME ESTIMATES

DATE: March 2014

FIGURE 2