

Traffic Study / AMHERST STUDIO HOUSING Development
132 Northampton Road, Amherst, MA
Parcel 14C-8

**Zoning Board of Appeals
Approved, October 29, 2020
ZBA FY2020-39**

Prepared By Berkshire Design Group
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The project proposes to locate 28 studio residential units within walking distance of downtown. The selected parcel is located in Amherst on the south side of the road just east of the Amherst College Pratt Field and less than ½ mile to Amherst Town Center with amenities such as Town Hall, the Library, and many restaurants and shops. The 0.88 acre parcel has frontage along Northampton Road/ Route 9. The parcel is bordered to the north by Route 9, a residential property to the east, and by Amherst College's Pratt Field to the south and west.

Plans are currently in process (75% design completion phase) by MA Department of Transportation, which owns and maintains Northampton Road (a State Highway), to improve sidewalks on Northampton Road, creating 5' wide walk-ways from University Drive to the Town Center on both sides of the road, and adding two crosswalks with blinking lights at the Orchard and Hazel cross streets. This will place one crosswalk just east of 132 Northampton Road and one just west of the site. The site contains an internal walkway system which separates the pedestrians from the drive. The walkways connect to the existing and proposed to be improved walkways on Northampton Road

The project proposes to demolish the existing house at 132 Northampton Road, and construct the new 28 unit studio residences in a single building near the rear of the parcel. The Drive has been relocated about 14 feet to the west of the original location. This is mostly to allow for turning radius required by MA DOT but also to accommodate immediate residential neighbor by providing a larger area for a planting buffer between the new driveway location and the property boundary. This location also provides the safest entry/exit from the site in that it separates the entrance at the furthest/safest distance from the Pratt Field entrance and the Dana Street/Route 9 intersection. There is adequate and safe sight distance at this location, which is over 400 ft to the east and over 800 feet to the west.

Between the Building and Route 9 the project is proposing 16 parking spaces at a ratio of 0.57 spaces per unit. The width of the access drive to these units is 20' with a 5' sidewalk to the west of the drive. The drive terminates in a hammerhead which also provides storage for dumpsters on site and services as an emergency vehicle turn around space.

Traffic Generation

The Institute of Transportation Engineers (ITE) "Trip Generation" report uses actual field surveys to estimate trips associated with a variety of land uses and is a nationally accepted standard. Although the ITE report does not specifically have traffic data for low income housing, which typically has much lower traffic generation than apartments, the traffic generation for apartments as listed in the ITE report was used to project traffic volumes for the proposed use of the property. Weekday Average Daily Traffic, (ADT), AM and PM Weekday Peak Hour, and Saturday ADT and Saturday Peak Hour generation values were developed.

The ITE report was used to project existing and proposed traffic volumes for the property. The existing use for the property is a single family residence and ITE Land Use Code 210 -*Single Family Detached Housing* was used for computation of existing traffic generation. The ITE Land Use Code 220 – *Apartments* was used assuming 28 units. Traffic generation from low income housing are typically less than an average apartment, and the trip generations listed in this report are actually higher than anticipated and as such reflect conservative estimate

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A conservative estimate of the traffic to be generated by the project during the weekday morning peak hour, the weekday evening peak hour and the total weekday daily traffic is summarized below:

Traffic generation based upon ITE Land Use Code 220 – Apartment and 210 Single Family

Weekday ADT	Rate/Unit	% Enter	Trips enter	% Exit	Trips exit	Total trips
28 Residential Units	6.7	50	94	50	94	188
Minus 1 Single Family Unit	10	50	5	50	5	10
TOTAL			89		89	178

Weekday AM Peak	Rate	% Enter	Trips enter	% Exit	Trips exit	Total trips
28 Residential Units	0.75	36	8	64	13	21
Minus 1 Single Family Unit	0.75	35	1	65	1	1
TOTAL			7		12	20

Weekday PM Peak	Rate	% Enter	Trips enter	% Exit	Trips exit	Total trips
28 Residential Units	1.01	60	17	40	11	28
Minus 1 Single Family Unit	1.01	58	1	42	1	1
TOTAL			16		10	27

The current 75 % Mass DOT design plans list traffic counts conducted in 2016 which shows an average daily traffic, (ADT) on Route 9 in the vicinity of the project as 14,514 vehicles per day. The plans also listed as the Design Hourly Volume, (DHV) as 1,313, vehicles per hour, and the Directional Design Hourly Volume (DDHV) as 656 vehicles per hour.

Summary:

The site drive is located with adequate and safe sight distance, the site has an internal walkway separating pedestrians from driveway traffic, and the site will have pedestrian access to the central downtown amenities, thereby reducing the requirements for auto traffic generation by the residents

The anticipated MAXIMUM peak hour traffic to be generated by this project results in a traffic generation of only 27 vehicles per hour, or approximately 2 minutes between trips. In reality, it is anticipated that this number will actually be much less. This in comparison with the existing peak hour traffic on Route 9 of 1,313 vehicles per hour indicate that the additional traffic generated by this project will result in a very small incremental increase in traffic volumes on Route 9 that will have minimal impact on traffic operations on Route 9 or any other adjacent roadways or intersections.