




CITY OF CAMBRIDGE
Traffic, Parking and Transportation
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MEMORANDUM

To: Cambridge Planning Board
From: Joseph E. Barr, Director 
Date: July 2, 2018
Re: 50 Cambridgepark Drive Residences (PB#338)

The Traffic, Parking and Transportation Department (TP&T) has reviewed the Transportation Impact Study (TIS) and Special Permit Application for the Proposed 50 Cambridgepark Drive Residences project by the Hanover Company R.S. Limited Partnership.

The Project proposes to replace three existing office/research buildings totaling 39,000 square feet located at 36-54 Cambridgepark Drive (known as the VECNA Technology site) with a new 318,777 square feet 8-story mixed-use building containing 299 residential apartment units, 6,992 square feet ground floor retail, 187 automobile parking spaces (0.63 parking space/unit), 328 long-term bicycle spaces, and 38 short-term bicycle spaces.

TP&T certified the Project's TIS as complete and reliable on May 30, 2018. The TIS evaluated the area's transportation conditions at nine intersections, the Project's trip generation and impacts, and cumulative traffic impacts with other development projects. The TIS reviewed all modes of transportation (vehicle, transit, walking and bicycling) and the Project's Service and Loading.

The TIS indicated that the project will generate a total of:

602 daily vehicle trips including, 63* AM and 65* PM peak hour vehicle trips,
926 daily transit trips (101 AM / 105 PM Peak hour transit trips),
634 daily pedestrian trips (57 AM / 54 PM Peak hour transit trips), and,
122 daily bicycle trips (13 AM / 13 PM Peak hour bicycle trips).

* Does not include elimination of existing site trips, which results in 45 AM and 47 PM net new vehicle trips.

The TIS indicated that the planning board special permit transportation criteria were exceeded in 14 instances. Thirteen (13) of the 14 exceedances are due to existing pedestrian level of service delay (PLOS E or F) crossing intersections, including Cambridgepark Drive at Steel Place, Alewife Brook Parkway at Rindge Avenue, Alewife Brook Parkway at Route 2/16, and Steel Place at Alewife Station Access Road (Route 2 Connector). A PLOS E or F means there is an average of 40 or more second delay for a pedestrian to cross the intersection. The 14th exceedance was at the 100 Cambridgepark Drive driveway at Cambridgepark Drive which triggered the criteria because it will change from PLOS A to B in the morning peak hour due to

additional vehicles turning at that driveway to access the site, although that impact is off-set by eliminating the Project's two existing curb cuts on Cambridgepark Drive.

The TIS includes tables showing the difference in vehicle delay at intersections between the Existing and Build condition (i.e., delay due to project trips) and between the Existing and a 5-Year Future condition (i.e., delay due to project trips, cumulative impacts with other development project trips, and a background traffic growth rate of 0.5% per year for five years).

The analysis found that during the morning and evening peak hours for the Build condition, project impacts are no greater than 10 seconds of delay at each of the study area intersections due to the project trips. For example, at the Alewife Brook Parkway at Rindge Avenue intersection, the project will add an overall average of 3.2 seconds of delay in the morning peak hour. Looking forward five years and taking into account other development projects and an assumed 0.5% traffic growth rate per year, the Alewife Brook Parkway at Rindge Avenue intersection could have 27.5 seconds of additional delay, however, TP&T advises the Planning Board members that traffic models and assumptions are conservative and generally represent worst-case scenarios. That doesn't mean that the project should not mitigate its direct traffic impacts, or mitigate its fair-share of the cumulative traffic impacts.

The TIS included a detailed transit analysis, although the focus was on the Alewife MBTA Station, not on the overall full Red Line system capacity. Because Alewife MBTA station is a terminus station, the TIS showed that there is available capacity for passengers boarding a train in the morning peak hour and getting off a train in the evening peak hour at Alewife Station. Farther down the line, however, the Red line gets very crowded, as is well known. So, a person boarding a train in the evening peak hour heading to Alewife Station to go home may experience significant crowding depending on where they board the train. The good news is that 252 new Red Line cars are scheduled to be delivered from 2019 to 2023, along with improvements in signal equipment. Red Line train headways will be able to be decreased from about 4.5 minutes to 3 minutes which could accommodate approximately additional 7,000 transit riders per hour according to the MBTA. Although that may be somewhat optimistic, TP&T commends the MBTA and State for these much needed new trains and signal equipment improvements. By the time this Project is completed, new trains should have arrived and should address any capacity issues associated with this project.

The full planning board criteria summary sheet is attached. TP&T offers the Planning Board the following initial comments on this project:

1.0 General Comments.

The proposed 50 Cambridgepark Drive Residences project is a transit-oriented project because it is located just a few minutes' walk to the Alewife MBTA station and will generate more transit trips than vehicles trips. Because of its access to transit and based on data from other similar multi-family residential projects on Cambridgepark Drive, the project will have lower auto ownership and vehicle impacts than a project located further away from a transit station. This does not dismiss the fact that there is and will continue to be existing traffic congestion in Alewife, primarily due to through traffic.

The Project's Application for Special Permit, dated June 11, 2018 acknowledged challenges in the area such as flooding, affordable housing and the existing traffic congestion. TP&T agrees with the Applicant's comment that no single project or owner can meet these challenges alone. Regarding traffic congestion, the Applicant has provided some limited commitments, such as TDM measures but has also committed to work

in collaboration with TP&T to mitigate the project's trip impacts. Based on the feedback we hear at the Planning Board hearing, TP&T will work with the Applicant on a full mitigation package for the Project.

2.0 Site Plan and Access.

Access to the Project will be from a private shared driveway off Cambridgepark Drive. The driveway is currently used for the 100, 130 and 88 Cambridgepark Drive buildings. Access from the shared driveway will allow two existing site curb cuts on Cambridgepark Drive to be closed, which will improve the pedestrian and bicycle conditions on Cambridgepark Drive. As shown in the site plan, the project will also construct a raised cycle track on Cambridgepark Drive from the shared driveway all the way to the cycle track that is to be constructed as part of the 88 Cambridgepark Drive Project.

TP&T has been working with the Applicant and their consultants on the new design for the shared driveway and reviewed various options. We generally support the site plan shown in the Application dated June 11, 2018, which has 11 foot travel lanes in each direction, 8 foot on-street parking spaces on the project side, and sidewalks on both sides of the shared driveway. Some additional work on some details may be needed, such as the exact location of street trees, clearer plans illustrating sidewalk widths on public and private property (including widths of unobstructed space for pedestrians and cyclists), pavement materials, and signage.

It should be noted that the Applicant does not own the shared driveway but has signed agreements from each property owner with rights to the road (i.e. both its owner and other easement holders) granting preliminary approval of road design. TP&T believes it would be beneficial if all the final agreements, including construction schedule and phasing be completed before the issuance of a Building Permit for this Project. TP&T will continue to work with the Applicant, the Community Development Department (CDD), and the Department of Public Works (DPW) on the Project's site plan, shared driveway, curb cuts, and sidewalk plans.

3.0 Automobile Parking.

The Project is proposing 187 automobile parking spaces (0.63 spaces/unit). The plans in the Application for Special Permit, however, shows 173 parking spaces (81 spaces on the ground floor and 92 spaces on the second floor of the garage). This should be corrected or clarified. The Project proposes no parking spaces for the retail use because they expect (and we concur) that the retail patrons will primarily be local residents and office buildings employees in the area who will arrive on foot.

TP&T supports the request for a Planning Board Special Permit for a reduction of minimum off-street parking to 187 spaces (0.63 space/unit) for several reasons:

- 1) Data from other similar multi-unit residential buildings on Cambridgepark Drive have parking demands less than one space per unit. For example, according to the 50 Cambridgepark Drive's TIS, the 130 Cambridgepark Drive residential building has 147 leased units and 101 leased parking spaces (0.69 space/unit), and the 160 Cambridgepark Drive residential building has 369 leased units and 256 leased parking space (0.68 spaces/unit).
- 2) The 50 Cambridgepark Drive project will have a higher percentage of affordable units than the 130 and 160 Cambridgepark Drive buildings, and affordable units tend to have lower automobile ownership than market rate units, therefore it supports the slightly lower parking ratio for 50 Cambridgepark Drive.

- 3) Data, such as census data, continue to show reduced auto ownership, probably because of the growing number of transportation options available in Cambridge, such as carsharing, ridehailing (i.e. Uber), bicycling and bike sharing (i.e. Blue Bikes).

4.0 Bicycle Parking.

The Project will meet the zoning required bicycle parking and provide 328 long-term and 38 short-term bicycle parking spaces. All short-term bicycle parking spaces will be located on the Project's property.

5.0 Transportation Mitigation.

The Project's TIS and Application for Special Permit committed to implementing TDM measures. The TIS provided an initial list, but additional work on the specific commitment is still needed and essential for the project to create no more vehicle trips than estimated in the TIS and to maintain a low parking demand.

TP&T will work with the applicant on developing the final mitigation program, including infrastructure mitigation and robust TDM measures, including, but not limited to items such as the following:

- As shown in the site plan, construct a cycle track on Cambridgepark Drive to connect with the cycle track to be constructed by the 88 Cambridgepark Drive project,
- Contribute (amount to be determined) toward transportation connections in the Alewife area,
- Ongoing annual financial support to the City toward bicycle sharing, such as the Blue Bikes system (it should be noted that the Applicant has agreed to a one-time \$50,000 contribution towards City's installation of additional bike-sharing accommodation in the vicinity of the Project in their Small Parking and Transportation Demand Plan (PTDM). Any annual contributions would be in addition.
- Residential transit-pass subsidies (percentage and duration to be determined) to help establish the habit of using mass transit for new residents,
- Membership in the Alewife TMA,
- Transportation Coordinator for residents,
- Minimum 2 carshare parking spaces (preferably located at the on-street spaces on the private shared driveway),
- Minimum 3 electric vehicle (EV) charging stations: 2 EV stations in the garage and 1 EV station located at a space or two at the on-street parking spaces on the private shared driveway,
- Bicycle repair tools in the bicycle storage areas,
- Real-time multi-modal transportation display screen for residents in a visible central area, such as in the residential lobby,
- Transportation Coordinator to manage and promote sustainable transportation for retail/restaurant employees and patrons,
- Retail/Restaurant transit-pass subsidy for full time employees in space over 2,000 square feet,
- Annual Gold level Blue Bikes bikeshare membership for full time employees in retail/restaurant space over 2,000 sf,
- Membership in the Alewife TMA by any property owner of retail/restaurant space over 2,000 sf.,
- Transportation monitoring program.

Lastly, TP&T looks forward to continuing to work with the Hanover Company to develop a final transportation mitigation program that will help to ensure the success of this project.

PROJECT

Project Name: 50 Cambridgepark Drive Development
 Project Address: 50 Cambridgepark Drive
 Cambridge, MA 02138
 Owner/Developer Name: Hanover RS Limited Partnership
 Contact Person: David S. Hall
 Contact Address: c/o The Hanover Company
 2 Seaport Lane, 11th Floor
 Boston, MA 02210
 dhall@hanoverco.com
 Contact Phone Number: (857) 400-0681

SIZE

ITE sq. ft. : 309,000 GSF – 299 residential units
 Land Use Type: Residential
 ITE sq. ft. : 7,000 SF
 Land Use Type: Retail/Restaurant

PARKING

Existing Parking Spaces: 68 Use: Office/Research
 New Parking Spaces: 187 Use: Residential
 Net New Parking Spaces: +119

TRIP GENERATION*:

	Daily	Morning Peak Hour	Evening Peak Hour
Total Trips	2,343		
SOV	578	61	63
HOV	24	2	2
Transit	926	101	105
Bike	122	13	13
Walk	634	57	54
Other	116	12	13

* Does not include trips eliminated by elimination of existing site use

MODE SPLIT (Person Trips)

	Residential	Retail/Restaurant
SOV	28%	18%
HOV	2%	2%
Transit	51%	20%
Bike	5%	5%
Walk	8%	52%
Other	6%	3%

TRANSPORTATION CONSULTANT

Company Name: VHB
 Contact Name: R. David Black
 Contact Phone Number: 617-607-2906
 Date of Building Permit Approval:

Planning Board Criteria

Total Data Entries = 143 Total Number of Criteria Exceedances = 14

Criteria A –Project Vehicle Trip Generation

Time Period	Criteria (trips)	Build*	Exceeds Criteria?
Weekday Daily	2,000	602	No
Weekday Morning Peak Hour	240	63	No
Weekday Evening Peak Hour	240	65	No

* Does not include trips eliminated by elimination of existing site use

Criteria B – Vehicular LOS

Intersection	Morning Peak Hour				Evening Peak Hour			
	Existing Condition	Build Condition	Traffic Increase	Exceeds Criterion?	Existing Condition	Build Condition	Traffic Increase	Exceeds Criterion?
Cambridgepark Drive/100 Cambridgepark Drive Driveway	C	C	9%	No	B	B	11%	No
Cambridgepark Drive/Site West (outbound) Driveway	A	-	9%	No	B	-	9%	No
Cambridgepark Drive/Site East (inbound) Driveway	A	-	6%	No	A	-	9%	No
Cambridgepark Drive/Steel Place	C	C	4%	No	C	C	3%	No
Cambridgepark Drive/Alewife Brook Parkway	E	E	1%	No	F	F	1%	No
Alewife Brook Parkway/Rindge Avenue	F	F	1%	No	F	F	1%	No
Steel Place/Alewife Station Access Road (Route 2 Connector)	F	F	0%	No	F	F	0%	No
Fresh Pond Rotary	F	F	1%	No	F	F	1%	No
Alewife Brook Parkway at Route 2/16 – Signal A	B	B	0%	No	B	B	0%	No
Alewife Brook Parkway at Route 2/16 – Signal B	E	E	0%	No	F	F	0%	No
Alewife Brook Parkway at Route 2/16 – Signal C	C	C	3%	No	B	B	0%	No
Alewife Brook Parkway at Route 2/16 – Signal D	B	B	0%	No	A	A	1%	No

Criteria C – Traffic on Residential Streets

Roadway	Segment	Amount of Residential	Morning Peak Hour			Evening Peak Hour		
			Existing ¹	Increase ²	Exceeds Criteria?	Existing ¹	Increase ²	Exceeds Criteria?
Cambridgepark Drive	west of 100 Cambridgepark Dr	> 1/3 but <1/2	621	0	No	425	0	No
	between 100 Cambridgepark Dr and Site West Driveway	1/3 or less	736	63	No	574	65	No
	between Site West Driveway and Site East Driveway	1/3 or less	736	63	No	588	51	No
	between Site East Driveway and Steel Pl	1/3 or less	754	45	No	587	50	No
	between Steel Pl and Alewife Brook Parkway	1/3 or less	979	42	No	1261	46	No
Steel Place	between Cambridgepark Dr and Alewife Station Access Rd	1/3 or less	727	3	No	799	2	No
	north of Alewife Station Access Rd	1/3 or less	1099	-7	No	922	2	No
Rindge Avenue	west of Cambridgepark Dr	1/2 or more	948	1	No	813	6	No
Concord Avenue	west of Fresh Pond Rotary	1/3 or less	1765	13	No	1325	14	No
	east of Fresh Pond Rotary	1/3 or less	3550	18	No	3010	19	No
Alewife Brook Parkway	between Fresh Pond Rotary and Rindge Ave	1/3 or less	3200	31	No	3091	33	No
	between Rindge Ave and Cambridgepark Dr	1/3 or less	3738	32	No	3503	39	No
	Between Cambridgepark Dr and Route 2/16 Interchange	1/3 or less	3411	10	No	3180	7	No
	north of Route 2/16 Interchange	1/3 or less	2344	12	No	2578	12	No
Route 2	west of Route 2/16 Interchange	1/3 or less	4251	8	No	4558	-5	No
Alewife Station Access Road	between Route 2/16 Interchange and Steel Place	1/3 or less	285	10	No	801	0	No

1 Where driveways/on-street parking created a segment inflow/outflow volume imbalance, an average was calculated per direction and added
 2 Net new project trips after trip credits are applied

Criteria D – Lane Queue (for signalized intersections)

Intersection	Lane	Morning Peak Hour			Evening Peak Hour		
		2018 Existing	2018 Build	Exceeds Criteria?	2018 Existing	2018 Build	Exceeds Criteria?
Cambridgepark Drive/Steel Place	Steel Place NB L/T/R	1	1	No	1	1	No
	Steel Place SB L	4	4	No	7	7	No
	Steel Place SB L/T/R	1	1	No	7	7	No
	Cambridgepark Drive EB L/T/R	4	5	No	8	8	No
	Cambridgepark Drive WB L/T	10	11	No	4	5	No
	Cambridgepark Drive WB R	0	0	No	0	0	No
Cambridgepark Drive/Alewife Brook Parkway	Alewife Brook Parkway NB L	4*	5*	No	4*	4*	No
	Alewife Brook Parkway NB T	5*	5*	No	6*	6*	No
	Alewife Brook Parkway SB T	~39	~39	No	~23	~29	No
	Cambridgepark Drive EB	3	3	No	8*	9*	No
Alewife Brook Parkway/Rindge Avenue	Alewife Brook Parkway NB	63*	63*	No	91*	91*	No
	Alewife Brook Parkway SB	7*	4*	No	7*	7*	No
	Rindge Avenue WB L	7	7	No	7*	7*	No
	Rindge Avenue WB R	~18	~19	No	27*	27*	No
Alewife Brook Parkway at Route 2/16	Alewife Brook Parkway NB L	~25	~26	No	~24	~24	No
	Alewife Brook Parkway NB T	4	4	No	3	3	No
	Alewife Brook Parkway SB T	7	7	No	4	4	No
	Alewife Brook Parkway SB R	17	17	No	15	15	No
	Route 2 EB L	~11	~11	No	~11	~11	No
	Route 2 EB R	9	9	No	6	6	No
	Alewife Station Exit Ramp WB T	3	2	No	7	7	No
	Alewife Station Exit Ramp WB R	1	1	No	3	3	No

Note: Synchro provides queue data in feet, the table presents queue data in number of vehicles. As directed by the TIS guidelines 1 vehicle = 25 ft
 ~ Volume exceeds capacity; queue is theoretically infinite
 * SimTraffic results presented instead of Synchro results

Criteria E – Pedestrian Delay

Intersection	Crosswalk	Morning Peak Hour			Evening Peak Hour		
		Existing	Build	Exceeds Criteria?	Existing	Build	Exceeds Criteria?
Cambridgepark Drive/Steel Place	East	D	D	No	E	E	Yes
	West	D	D	No	E	E	Yes
	North	D	D	No	E	E	Yes

Intersection	Crosswalk	Morning Peak Hour			Evening Peak Hour		
		Existing	Build	Exceeds Criteria?	Existing	Build	Exceeds Criteria?
	South	D	D	No	E	E	Yes
Cambridgepark Drive/Alewife Brook Parkway	No pedestrian facilities provided						
Alewife Brook Parkway/Rindge Avenue	East	E	E	Yes	E	E	Yes
	South	E	E	Yes	E	E	Yes
Alewife Brook Parkway at Route 2/16	East	E	E	Yes	E	E	Yes
Cambridgepark Drive/100 Cambridgepark Drive Driveway	South	A	B	Yes	B	B	No
Cambridgepark Drive/Site West (outbound) Driveway	South	A	*	*	A	*	*
Cambridgepark Drive/Site East (inbound) Driveway	West	F	*	*	E	*	*
	South	A	*	*	A	*	*
Steel Place/Alewife Station Access Road (Route 2 Connector)	East	B	B	No	E	E	Yes
	West	A	A	No	A	A	No
	North	F	F	Yes	E	E	Yes

* Driveway eliminated by Project

Criteria E – Pedestrian and Bicycle Facilities

Adjacent Street	Link (between)	Sidewalk or Walkway Present	Exceeds Criteria?	Bicycle Facilities or Right of Ways Present	Exceeds Criteria?
Cambridgepark Drive	Site Driveway	Yes	No	Yes	No