



CITY OF CAMBRIDGE

TRAFFIC, PARKING, + TRANSPORTATION

MEMORANDUM

To: Cambridge Planning Board
From: Joseph E. Barr, Director *W. for JB.*
Date: February 19, 2020
Subject: 75-109 Smith Place, The Davis Companies (PB#359)

The Cambridge Traffic, Parking, and Transportation Department (TP+T) has reviewed the Transportation Impact Study (TIS) and Special Permit Application for the proposed 75-109 Smith Place (101 Smith Place) project by The Davis Companies.

The proposed Project includes construction of a 142,153-sf technical office building at 75-109 Smith Place with approximately 154 auto parking spaces, 50 long-term bicycle parking spaces and 10 short-term bicycle parking spaces. Two existing buildings on the site totaling approximately 32,670 sf (warehouse and office building) will be demolished.

TP+T certified the Project's TIS as complete and reliable on October 21, 2019. The TIS evaluated the area's transportation conditions at six intersections, including the Project's trip generation and cumulative traffic impacts with other development projects as required in all TISs. The TIS reviewed all modes of transportation (vehicle, transit, walking, and bicycling) and the Project's service and loading plan.

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

- 1,194 daily vehicle trips (34 AM Peak/34 PM peak hour net new vehicle trips)
- 176 daily transit trips, (7 AM Peak/6 PM Peak hour transit trips)
- 138 daily pedestrian trips, (5 AM/5 PM Peak hour transit trips)
- 156 daily bicycle trips, (5AM/6 PM Peak hour bicycle trips)

The TIS indicated that the Planning Board Special Permit transportation criteria were exceeded in 19 instances.

- Pedestrian delay criteria were triggered at 3 intersections (Concord Avenue/Smith Place, Concord Avenue/Fawcett Street, and Concord Avenue/Blanchard Road/Griswold Street) (14 exceedances).
- The pedestrian facility criteria was triggered for Smith Place adjacent to the Project site because there is no sidewalk present (1 exceedance).
- The bicycle facility criteria were triggered on segments of Smith Place and Fawcett Street (4 exceedances).

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

In addition to vehicle and pedestrian analysis, the TIS included bicycle and transit analysis. The bicycle analysis documented conflicting bicycle and vehicle movements (i.e., intersections or driveways where vehicles cross bicycle paths). The transit analysis reviewed MBTA buses in the area, the MBTA Red Line at Alewife station, and the Alewife TMA shuttle bus ridership and capacity. The TIS indicated that the Alewife TMA shuttle service has passenger seat availability at Alewife Station. The MBTA Bus #74 and #78 that have bus stops on Concord Avenue near the Project site were reported as having available capacity during the morning and evening peak hours. The MBTA Bus #76 inbound entering Alewife station (from Lexington to Alewife Station) was found to be the most congested bus in the study area, which is because the MBTA only operates 2 buses per hour (~ 25-36 minutes headways) during morning and evening peak hours. The TIS did not expect the Project would add new riders to Bus #76. The TIS estimated that only 9% of the total project generated trips would be by transit, based on employee surveys at nearby projects, including the 10 Wilson Road and 767 Concord Avenue buildings. This information is interesting because it demonstrates both the challenges and opportunities for the Quadrangle – bus services are limited and/or infrequent, and the Project is a 20+ minute walk to the MBTA Red Line station. The City's Envision Cambridge Alewife District Plan calls for improved connections to Alewife Station and improved bus and shuttle services to the Alewife MBTA Red Line station.

The full Planning Board criteria summary sheet is attached. TP+T offers the Planning Board the following initial comments:

1.0 General Comments

From a mobility perspective, two positive elements for the proposed Project are 1.) Consolidating existing curb cuts and, 2.) Providing new sidewalks and landscaping on Smith Place, especially where no sidewalks exist today. The Applicant is also offering to provide a few basic Transportation Demand Management Measures to site employees, including free access to the Alewife TMA shuttle bus, transit pass subsidies for employees, and Gold level Bluebikes bikesharing membership for employees, which cost approximately \$70 per year (for employees that choose to become a Bluebikes bikesharing member).

Nonetheless, traffic is congested during the peak hours in the Alewife area and the proposed Project will add additional vehicle trips. In addition, other development projects are proposed or are expected to be proposed in the area, each one adding new vehicle trips. Some key issues for this Project (and any other proposed project in the area) includes the number of parking spaces, how the Project meets the Envision Cambridge Alewife District mobility recommendations, access to transit, transportation impact mitigation, and PTDM or TDM Plans.

The proposed Project triggers a **Parking and Transportation Demand Management (PTDM) Plan** because the site had 100 parking spaces in the City's 1990 Parking Inventory and an increase in parking spaces triggers the PTDM Plan. **The Planning Board cannot issue a Special Permit until the Project has received approval for its PTDM Plan**

2.0 Auto Parking

The Project proposes approximately 154 total parking spaces in a 115-space garage beneath the building and 39 surface parking spaces or 1.1 parking spaces per 1,000 square feet. The current zoning minimum parking requirement is approximately 0.95 spaces per 1,000 sf. The parking ratio recommended in the City's 2019 Cambridge Envision Alewife District Plan is a maximum 0.8 parking spaces per 1,000 sf for R&D use. TP+T does not know when the Alewife District Plan's recommendation might be incorporated into zoning. In the meantime, TP+T has been meeting with the Applicant on the proposed number of parking spaces and we expect continuing to discuss parking with the Applicant. Prior to the Planning Board making a decision on the Project, TP+T expects to develop a mutually agreeable parking plan with the Applicant.

3.0 Roadways and Circulation

The average daily traffic (ADT) for Smith Place is approximately 2,800 vehicles per day, according to traffic counts conducted in March 2019 for the TIS. For comparison, Concord Avenue had approximately 16,400 ADT.

During the Cambridge Envision Alewife District Planning process, a significant amount of work was done to analyze and envision what the roadways in the Quadrangle should be in the future to achieve a mixed-use neighborhood. Key themes included, greater access and connectivity for all modes, reduction of vehicle traffic though enhanced transportation demand management, improved bus and shuttle services to the Alewife MBTA Red Line station, and new bicycle and pedestrian infrastructure. The Plan also stated that making non-automobile travel better will also have secondary benefits such as air quality and public health.

According to the Alewife District Plan, Smith Place is envisioned to have a cross-section of about 91 feet wide with grade separated bicycle lanes and parking on one side of the street. The Plan envisions sufficient sidewalks with plantings of at least 10 feet wide. Fawcett Street is envisioned to be extended past Smith Place adjacent to the proposed Project and Adley Street is envisioned to be improved and better aligned with Wilson Road (today the roads are off set from each other at Smith Place). To achieve the plan, it's expecting that changes to the roads would evolve over time as part of new development projects by properly locating building setbacks, curb lines, sidewalks and street trees, etc. to fit with the street cross-section plan.

The Applicant and their Design Team has worked cooperatively with City staff on the site plan and street design. Although TP+T believes that the Applicant and City are generally in agreement on the way the future roadways should be, TP+T believes more work is needed to iron out various details. For example, it is difficult to see in the Special Permit drawings exactly how the Project's proposed curb lines, sidewalks, street trees

and other relevant elements (i.e., protected bicycle lane) match the City's plans and what exact changes will be made by the Applicant and when. TP+T recommends that the Applicant provide additional site plans and corridor level roadway plans that overlay the existing conditions, project proposed conditions and future conditions for Smith Place, Adley Road and a future Fawcett Street extension. Both sides of the streets should be shown (i.e., curb to curb and back of sidewalk to back of sidewalk).

4.0 Curb cuts and Loading

The Project will reduce the number of curb cuts from about five today to one curb cut off Smith Place. TP+T supports the consolidation of curb cuts into a single curb cut for the site because it will reduce conflict points on Smith Place (i.e. between vehicles crossing a sidewalk and pedestrians on the sidewalk).

The Project also proposes two on-site loading bays, which TP+T supports because service and loading activity will all be accommodated on-site instead of on Smith Place.

5.0 Bicycle Parking

TP+T supports the Projects' bicycle plan which will meet the zoning required bicycle parking spaces by providing 50 long-term and 10 short-term bicycle parking spaces. All short-term bicycle parking spaces will be located on the Project's property.

6.0 Transportation Mitigation:

TP+T provides the following initial recommendations for transportation mitigation to offset the project's transportation impacts.

Item#	Transportation Mitigation	Due Date
1	<p>As recommended in the Alewife District Plan, the Applicant should provide a one-time \$5 per square foot contribution to the City toward the Alewife Pedestrian Bicycle Bridge or other Transportation Improvements in Alewife Area. (example: 142,153 sf x \$5/SF = \$710,765)</p> <p>This mitigation item was recommended in the Envision Cambridge Alewife District Plan for new development projects in the Alewife Area to contribute toward this long-term but needed project to connect the Quadrangle and Triangle to improve access within the district.</p>	Prior to the issuance of the Building Permit.
2	<p>Contribute \$140,000 to the City toward planning, design and or installation of transportation improvements in the Alewife District, such as a potential new traffic signal at Concord Ave/Smith Place, upgrading the Pedestrian crossing beacon at Concord Ave/Spinelli into a Red Rapid Flashing Beacon, and/or other transportation projects in the area.</p>	Prior to the issuance of the Building Permit.

	This item will help mitigate the new vehicle trips, delay and queuing generated by the Project and decrease in pedestrian and bicycle comfort from new vehicle traffic.	
3	<p>Reconstruct Smith Place, Adley Road, and Fawcett Street along the site's frontage to align with the City's future cross-section plan for Smith Place as indicated in the Alewife District Plan and/or as approved by the City.</p> <p>This item will help mitigate the pedestrian and bicycle facility criteria that was triggered for this Project on Smith Place.</p>	<p>Final design to be approved by the City prior to the issuance of a Building Permit.</p> <p>Complete prior to issuance of an Occupancy Permit unless approved by TP+T due to unforeseen or reasonable delays.</p>
4	Fund and install a Bluebikes bikesharing station as required in the PTDM plan with location approved by the City.	Prior to issuance of an Occupancy Permit. (Funding should be provided at least 6 months prior to an Occupancy Permit for lead time in obtaining a new Bluebikes station).

CITY OF CAMBRIDGE

Special Permit – Transportation Impact Study (TIS)

Planning Board Criteria Performance Summary

101 Smith Place (75/109 Smith Place Redevelopment)

Planning Board Permit Number: . 359

PROJECT

Project Name: 101 Smith Place (75/109 Smith Place Redevelopment)
 Project Address: 75/109 Smith Place
 Cambridge, MA 02138
 Owner/Developer Name: The Davis Companies
 Contact Person: Chris Chandor
 Contact Address: 125 High Street, Suite 2111
 Boston, MA 02110
 Contact Phone Number: 617-451-1300

SIZE

ITE sq. ft.: 142,200 GSF
 Land Use Type: Research and Development

PARKING

Registered Parking Spaces: 183 Use: Warehouse/Office/Manufacturing
 Existing Parking Spaces*: 165 Use: Warehouse/Office/Manufacturing
 New Parking Spaces: 155 Use: Laboratory/R&D
 Net New Parking Spaces: -10 (compared to existing)
 *Surveyed parking spaces

TRIP GENERATION

	Daily	Morning Peak Hour	Evening Peak Hour
Total Person Trips	1,880	68	68
SOV	1,096	30*	30*
HOV	98	4	4
Transit	176	7	6
Walk	138	5	5
Bicycle	156	5	6
Other	216	8	8

*Net-New Project Generated Trips

MODE SPLIT (Person Trips)

	R & D Use
SOV	56%
HOV	10%
Transit	9%
Walk	8%
Bike	7%
Other	11%

TRANSPORTATION CONSULTANT

Company Name: VHB
 Contact Name: Sean M. Manning, PE, PTOE
 Contact Phone Number: 617-728-7777

Date of Building Permit Approval: _____

Planning Board Criteria

Total Data Entries = 115

Total Number of Criteria Exceedances = 19

Criteria A – Project Vehicle Trip Generation

Period	Criteria (trips)	Build	Exceeds Criterion?
Weekday Daily	2,000	1,194	No
Weekday Morning Peak Hour	240	44	No
Weekday Evening Peak Hour	240	44	No

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?
Concord Avenue/ Smith Place	E	F	2.2%	No	E	F	2.5%	No
Concord Avenue/ Moulton Street/ Neville Manor	A	B	1.1%	No	B	B	1.2%	No
Concord Avenue/ Fawcett Street	E	E	0.9%	No	E	E	1.1%	No
Smith Place/ Fawcett Street	A	A	0.0%	No	B	B	0.0%	No
Smith Place/ Wilson Road/ Adley Road	B	B	16.9%	No	B	B	17.7%	No
Concord Avenue/ Blanchard Road/ Griswold Street	F	F	0.9%	No	F	F	0.8%	No

Criteria C – Traffic on Residential Streets

Roadway	Segment	Amount of Residential	Morning Peak Hour			Evening Peak Hour		
			Existing ¹	Increase ²	Exceeds Criterion?	Existing ¹	Increase ²	Exceeds Criterion?
Blanchard Road	Colby St to Concord Ave	1/2 or more	1002	5	No	1158	5	No
	Mannix Cir to Concord Ave	>1/3 but <1/2	884	5	No	1009	5	No
Griswold Street	Sunset Rd to Concord Ave	1/2 or more	57	0	No	34	0	No
Concord Avenue	Stewart Ter to Blanchard Rd	1/2 or more	682	8	No	754	6	No
	Blanchard Rd to Smith Pl	1/3 or less	1469	18	No	1291	17	No
	Smith Pl to Moulton St	1/2 or more	1444	17	No	1211	16	No
	Moulton St to Fawcett St	1/3 or less	1535	17	No	1236	16	No
	Fawcett St to Wheeler St	1/3 or less	1717	17	No	1366	16	No
Smith Place	Concord Ave to Adley Rd	1/3 or less	190	34	No	190	34	No
	Adley Rd to Fawcett St	1/3 or less	134	17	No	144	17	No
	Fawcett St to Mooney St	1/3 or less	104	0	No	110	0	No
Wilson Road	Smith Pl to Moulton St	1/3 or less	48	0	No	37	0	No
Moulton Street	Wilson St to Concord Ave	1/3 or less	113	0	No	100	0	No
Fawcett Street	Concord Ave to Connecting Rd	>1/3 but <1/2	243	0	No	231	0	No
	Connecting Rd to Smith Pl	1/3 or less	110	0	No	64	0	No

Criteria D – Lane Queue (for signalized intersections)

Intersection	Lane	Morning Peak Hour			Evening Peak Hour		
		2019 Existing	2019 Build	Exceeds Criterion?	2019 Existing	2019 Build	Exceeds Criterion?
Neville Pl/ Moulton St at Concord Ave	Neville NB Left/Thru/Right	1	1	No	1	1	No
	Concord EB Left/Thru/Right	4	4	No	4	4	No
	Concord WB Left/Thru/Right	6	6	No	7	8	No
	Moulton SB Left/Right	2	2	No	2	3	No
Blanchard Rd St at Concord Ave	Blanchard NB Left/Thru	11	11	No	28	33	No
	Blanchard NB Right	3	3	No	3	3	No
	Concord EB Left/Thru/Right	9	9	No	13	15	No
	Concord WB Left	5	5	No	6	6	No
	Concord WB Thru	7	7	No	9	9	No
	Concord WB Right	4	4	No	5	5	No
	Blanchard SB Left/Thru/Right	66	66	No	20	23	No

Criteria E – Pedestrian Delay

Intersection	Crosswalk	Morning Peak Hour			Evening Peak Hour		
		Existing	Build	Exceeds Criterion ?	Existing	Build	Exceeds Criterion ?
Concord Avenue at Smith Place	West	F	F	Yes	F	F	Yes
	North	A	B	Yes	A	A	No
Concord Avenue at Moulton Street/Neville Manor	East	D	D	No	C	C	No
	North	D	D	No	C	C	No
	South	D	D	No	C	C	No
Concord Avenue at Fawcett Street	West	F	F	Yes	F	F	Yes
	North	B	B	No	B	B	No
Smith Place at Fawcett Street	East	A	A	No	A	A	No
	West	A	A	No	A	A	No
	North	A	A	No	A	A	No
	South	A	A	No	A	A	No
Smith Place at Wilson Road/Adley Road	East	A	A	No	A	A	No
	West	A	A	No	A	A	No
	North	A	A	No	A	A	No
	South	A	A	No	A	B	Yes
Concord Avenue at Blanchard Road/Griswold Street	East	E	E	Yes	E	E	Yes
	West	E	E	Yes	E	E	Yes
	North	E	E	Yes	E	E	Yes
	South	E	E	Yes	E	E	Yes

Criteria F – Pedestrian and Bicycle Facilities

Adjacent Street	Link (between)	Sidewalk or Walkway Present	Exceeds Criteria?	Bicycle Facilities or Right of Ways Present	Exceeds Criteria?
Smith Place	Concord Avenue and Wilson Road/ Adley Road	No	Yes	No	Yes
	Wilson Road/ Adley Road and Fawcett Street	Yes	No	No	Yes
	Fawcett Street and Mooney Street	Yes	No	No	Yes
Fawcett Street	Smith Place and Concord Avenue	Yes	No	No	Yes
Concord Avenue	Blanchard Road and Fawcett Street	Yes	No	Yes	No