



Transportation, Traffic & Parking Department

City of New Haven



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December 10, 2019

Department Advisory Report PDD #45 Expansion

Summary. This department advisory report from Transportation, Traffic & Parking is provided to the Board of Alders pursuant to Article VII, Section 65(d) of the Zoning Ordinances of the City of New Haven and concerns the proposed changes to PDD #45 before the committee. This site is in the Dwight/West River neighborhoods and is to the West of Downtown New Haven and North of the MLK Jr Blvd/Legion Avenue corridor.

The submitted site area is in approximately 14.6 acres, an increase of roughly 2.5 acres to the PDD and is located less than a mile from the York Street Campus of Yale-New Haven Health. The site is well serviced by private shuttles, public buses, and the City's public Bike Share system. Additionally, the site is in an area of the city that has adequate sidewalk connectivity, though some gaps in the pedestrian accommodations exist off-site (as described further below).

Project Description. The existing properties in the PDD include 6 properties and the proposal will add 9 additional parcels to the PDD. The amended PDD would expand the boundaries for the new construction and renovation of various parcels. The submitted amendment/expansion includes General Plans that when finished will include a new inpatient bed tower with below-grade parking; garage expansion on Orchard Street; replacement of Orchard Street garage with additional parking; new pedestrian bridge over Orchard Street; redesigned emergency department facilities; and open space.

Properties in EXISTING PDD

1380 Chapel Street
1450 Chapel Street
301 Orchard Street
323 Orchard Street
330 Orchard Street
629 George Street

Properties to be ADDED to PDD

285 Orchard Street
289 Orchard Street
579 George Street
583 George Street
1342 Chapel Street
1346 Chapel Street
1354 Chapel Street
1360 Chapel Street

YNHH seeks approval of the PDD Application in order to facilitate the construction of a new, state-of-the-art Saint Raphael Campus ("SRC") bed replacement and neuroscience center. The development of the Site with an updated healthcare facility and associate parking will provide additional access to world-class health care service to the New haven community. The approvals will change the underlying requirements of the existing PDD #45 to right-size and consolidate existing and planned mobility options into the SRC and will provide better connectivity to the

hospital and the surrounding area. Amendments to the Medical Overall Parking Plan (“MAOPP”) and additional easements for installation of pedestrian bridges is offered concurrently to the PDD amendment

Traffic Impact Study. Tighe & Bond was engaged to prepare a traffic impact study for the purposes of this report. The traffic impact study looks at the amendments and General Site Plan to generate traffic impacts and potential mitigation efforts based on the increase or decrease in traffic. The study is broken into 9 sections and 4 technical appendices. This section will not supplant the Traffic Impact Study, merely quickly summarize for the Committee and Full Board the pertinent findings:

- Section 1 Study Overview
 - PDD #45 currently contains a 450-bed hospital campus, with approximately 3,705 employees, two parking garages, and smaller surface lots.
 - The proposed expansion will result in approximately:
 - 210 additional hospital beds
 - 1,640 additional employees
 - Three new parking garages
 - New buildings and boundaries to PDD #45
 - After the expansion PDD #45 will contain a 660-bed hospital campus, 5,435 employees, and 2,437 parking spaces when the project is completed.
 - A number of existing driveways will be eliminated, and new driveways and site-access will be created. Notably the proposed Orchard garage will remove access from Orchard and create access on George Street.
 - The study proposes to replace four traffic signals at each of the corners of the existing PDD before amendment and improve operations at other traffic signals in the study area
- Section 2 Existing Conditions
 - Documentation on existing roadway network and site access including all driveways and parking lots and garages entrances or exits.
 - Section 2.1.2 mentions incorrect ownership of MLK Jr Blvd. This roadway is now entirely owned by the City of New Haven and is no longer a State highway.
 - Section 2.1.3 discusses Legion Avenue, and associated land uses. One land use missed was the Evergreen Cemetery which has frontage on Legion Avenue
 - Description of the study area includes 23 intersections including corridors on MLK Jr Blvd, Legion Ave, Derby Ave, George Street, Chapel Street, and Route 10/Ella Grasso Blvd
 - Existing traffic volumes in Average Daily Traffic (ADT) of vehicles:
 - Sherman Ave: 8,200 ADT
 - George Street: 6,005 ADT
 - Orchard Street: 8,595 ADT
 - The report notes that 14 of the 23 intersections in the study area operate at a Level-Of-Service of “D” and noted the 9 intersections that operate at level “E” or “F” presently. Additionally 7 of the intersections have traffic queues that currently extend past available storage capacity.

- Collision history for the study area includes over 1,000 crashes in the data set available. There were no fatalities in the crash data and only 2.2% of the crashes involved serious injury.
- Collisions were analyzed and found to be in three major categories: Rear-end (44%), Side Swipe (24%) and Angled (23%).
- Section 2.6 documents alternative modes of transportation. Missing from the report is the planned installation of protected bike facilities on both Legion Ave and MLK in the study area associated with the TT&P department's CMAQ project 92-682 which is in design presently and past the public comment period. Additional mention was made for the upcoming Edgewood Avenue protected bike lane and transit services in the area.
- Section 2.7 highlights existing Transportation Demand Management programs. Some highlights are that YNHH provides employees with \$50 towards either a CTRail pass or CTtransit bus pass. A monthly CTtransit pass is presently \$63/month and a CTRail pass from Hartford Union-Station to New Haven State Street Station is \$168/month. YNHH notes that the planned development will result in an expansion of bike parking facilities to provide about 115 covered bike parking spaces.
- Section 3 Background Conditions
 - This section documents Background Conditions in the study area. The project will be completed in 2024, therefore the study uses proposed 2024 volumes as the Background Condition.
 - The proposed SHIP development on "Parcel 1" of the "Connector" is missing from the background traffic volumes
 - Without mitigation or improvements, Section 3 documents what would be experienced by users and neighbors of the site. Notably, there would be some LOS decreases in four intersections and issues with queue length at four intersections.
- Section 4 Proposed Conditions
 - Roadway improvements are noted in this section. Notably striping and full replacement of four traffic signals is recommended by the consultant, in addition to retiming and minor improvements at other locations.
 - Sections 4.4 to 4.6 note the distribution of traffic as proposed in the network by the consultant after the project is completed.
- Section 5 Combined Conditions
 - This section reports on the conditions of traffic after all work is completed in 2024 on the SRC campus.
 - After accounting for the proposed construction, redistribution of traffic, and mitigation work, the study notes that all but one intersection will perform at LOS of "D" or better – notably the George Street and Sherman Avenue intersection in the AM peak hour.
 - Queue lengths on 19 of the 24 intersections increased by less than approximately 3 car lengths (75'), and only two of the intersections have queue lengths that will not be within the available storage.
- Section 6 Parking

- YNHH is requesting to change PDD #45 to generally bring the underlying zoning up to code in other current City of New Haven Zoning Regulations with one caveat of requiring a minimum of 1 parking space per 3 employees during peak shift, as opposed to the 1 per 4 existing currently. This change results in the addition of 233 parking spaces to the parking minimum in the PDD. To note, the recommended changes to PDD #45 listed in “Table 5” notes that Grimes Center – Employees would remain at the 1 space per 4 Employees (peak shift) and only the 2,800 employees listed in SRC would be at the 1 space per 3 ratio.
- The minor adjustment in ratios provides for the employer to better plan for and meet peak demands upon shift change at the facility during the afternoon.
- In order to plan for the new demands at PDD #45, the scheduled closure of the Sherman-Tyler Parking lot in 2022 as well as the future development on the Coliseum Lot, YNHH proposes to construct the following parking structures:
 - A new underground parking garage under the proposed Sherman Building with approximately 200 parking spaces
 - A new parking garage in the location of the existing surface parking lot at the corner of George Street and Orchard Street. This garage will be constructed in two phases and will replace an existing Orchard Street garage
 - Phase 1 of the garage will be 773 parking spaces on seven levels and will be interconnected with the Phase 2 garage which will provide 722 parking spaces, also on seven levels.
- The two new structures will be connected to the main hospital building two pedestrian bridges which are also jointly submitted for consideration in the City Plan Commission advisory report 1563-11.
- Following completion of the project in 2024 total parking spaces will be 2,437 and will exceed the minimum parking requirements on the campus, and also reflect the planned termination of the Sherman/Tyler Parking lot scheduled to be decommissioned in Fall of 2022.
- Section 7 Conclusions & Recommendations
 - The PDD #45 expansion will result in a total of 660 hospital beds with approximately 5,345 employees
 - The urban street grid and roadway network surround the SRC provides efficient vehicular and alternative travel mode options
 - The TDM program is currently serving 12-14% of employees. Also, of note is that the York Street Campus (5,942 drop offs) and SRC (4,835 drop offs) were the 7th and 12th busiest destinations in the City of New Haven respectively for Uber drivers to drop off customers in 2019.
 - The SRC project will revise site access including removing access from Orchard Street to the Orchard Street garage.
 - The proposed expansion of the emergency department includes operational improvements to separate ambulance traffic from patient drive-up traffic.
 - The proposed SRC expansion is expected to generate approximately 437 trips (319 entering, 118 exiting) during weekday morning peak hour

- The proposed SRC expansion is expected to generate approximately 446 trips (121 entering, 325 exiting) during weekday afternoon peak hour
- Combined with the redistribution of Sherman-Tyler parking, the project will include 541 morning peak hour trips and 518 afternoon peak hour trips under future conditions.
- The project recommends the following improvements to roadway, traffic signal, and alternative mode improvements:
 - Restriping of roadway to improve traffic safety on Orchard Street between Chapel Street and George Street
 - Replace four traffic signals at the boundaries of existing PDD #45: Chapel at Sherman, Chapel at Orchard, George at Sherman, and George at Orchard
 - Retiming of traffic signal to optimize performance at the following five intersections: Ella Grasso Blvd (EGB) at Derby, EGB at MLK Jr Blvd, EGB at Legion, MLK Jr Blvd at Howe, and Legion at Orchard
- Section 8 Tables
 - Table 1 documents traffic operations and LOS for existing condition, background conditions, no-mitigation, and full-build of traffic signals
 - Table 1 shows that after the construction of the project in 2024 traffic will be better than it is today, however if no mitigation is done it could worsen.
 - Table 2 documents the storage capacity as discussed previously.
 - Table 3 is a summary of crashes and collisions in the area. To note the study area intersections are not weighted by traffic volumes so the largest volume streets are at the top of the list in quantity of crashes.
 - Table 4 is the calculated additional traffic anticipated by proposed developments.

Initial Findings. When specific projects together with the more detailed site plans are prepared, the City's Transportation, Traffic and Parking Department will compare the specific project (and detailed site plan) with this initial assessment and provide any supplemental recommendations and/or requirements as warranted through the site plan review process. The proposed improvements in timing and upgrading of equipment at four intersections is estimated at a value of over \$2,000,000 in work to improve the traffic flows around the PDD.

The traffic impact study provides an adequate basis and level of comfort to move forward with the project from the department's perspective. Additional work will remain through the Site Plan process and further improve the traffic conditions around the proposed PDD #45 to better accommodate pedestrians and vehicular movements. The department recommends additional work to be coordinated with existing projects in queue and recently completed by the department.

The City of New Haven has invested in improvements to traffic signals through a corridor approach and the use of technology in traffic signals.

Signals along the MLK Jr Blvd and Legion Avenue corridors have been designed for upgrades using an adaptive responsive controller, the brand name of "SynchoGreen".

These signals include the four signals in Project 92-682 and in the Downtown Crossing projects. By adding the "SynchroGreen" module to existing traffic signals along the Chapel and George corridors as well as the remaining signals in the MLK/Legion corridor would improve conditions further and provide appropriate responsive technology to handle future demands. Presently, TT&P believes that 11 intersections are ready for this improvement and the department recommends further coordination work with YNHH to select the best locations for improvements.

The City of New Haven has also made headway in improvements to pedestrian accommodations at several traffic signals throughout the city. Due to the age of the infrastructure, several traffic signals still lack pedestrian signal heads and have outdated pedestrian ramps per the updated ADA standards. Presently the City has an active construction project to upgrade several intersections to the east of the site area. The department recommends working with YNHH to address intersections outside of the site area that presently do not have pedestrian signal heads and will need to be at a complete-street standard to facilitate pedestrian access to the hospital, as follows:

The intersections at Chapel/Winthrop, Chapel/Norton, Norton/Derby and Chapel/Ellsworth are presently lacking pedestrian signals and are similar in scope and project size to another TT&P project just to the East of the site area.

In 2020, TT&P is constructing the following intersections: Crown Street at High, York, Park and Howe; Chapel Street at High, Dwight, and Park; & George Street at Howe and Dwight Streets. The department recommends working collaboratively to address the gaps in the pedestrian network and note that the study area did not include most of these intersections, which is why the report did not include these issues. Some of these intersections will be looked at separately by TT&P directly in order to create a better network for pedestrians by the time the project is completed in 2024.

Overall the project is responsive to the needs of the traffic demands being created through the expansion and amendment to PDD #45. The parking being created through the PDD and documented in the amendment to the MAOPP consolidates operations for Yale-New Haven Health and reflects the anticipated changes in parking supply due to the continued removal of parking lots in and around downtown for active development. Through use of signal optimization timing and software, improvements to the pedestrian infrastructure, and replacement of traffic signals the department believes that the impact from the PDD expansion will be mitigated and the traffic network will be able to handle the additional traffic volumes.

Respectfully submitted,



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