



Ref.: 22035

June 24, 2022

Ms. Jennifer Hager, Planning Director
Town of Sutton
4 Uxbridge Road
Sutton, MA 01590

Reg.: 2nd Traffic Peer Review
Unified Global Packaging Group
Boston Road, Sutton, MA

Dear Jennifer:

Ron Müller & Associates (RMA) is in receipt of the supplemental information submitted by the applicant for the above-referenced project in response to our May 20, 2022 initial review letter. The following additional document was reviewed as part of our peer review services to the Town of Sutton:

- June 8, 2022 Response to Comments letter from Nutter McClennen & Fish LLP, to the Planning Board of the Town of Sutton.

For ease of reading, this letter paraphrases our initial comments where additional information was requested, the applicant's responses, and any additional comments we have at this time (in bold).

Comment 1: The traffic study focused on the following intersections:

- Providence Road (Route 146) at Boston Road
- Boston Road at Dudley Road/Pleasant Valley Road
- Boston Road at Galaxy Pass
- Providence Road (Route 122A) at Boston Road
- Boston Road at Site Driveway

It was recommended that the proposed intersection of Unified Parkway and Providence Road in the study area.

The applicant responded that the proposed intersection of Providence Road and Unified Parkway has been included to the study area. **Comment resolved.**

Comment 3: Seasonal adjustments were made to the data based on MassDOT 2019 Weekday Seasonal Adjustment Factors. It was noted that June and October traffic volumes along Urban Principal Arterials are approximately 7 to 9 percent higher than average annual conditions. Additionally, June and October traffic volumes along Urban Minor Arterials are approximately 6 to 14 percent higher than average annual conditions. Based on this information, the counts were not adjusted. It was recommended that the applicant review MassDOT permanent count station data near the site to confirm the lack of seasonal adjustments.

The applicant responded that they reviewed MassDOT continuous permanent count stations 310 (Route 146 south of Purgatory Road in Sutton) and 3991 (Route 146, north of I-90 in Worcester) to determine the seasonal factors for the year 2021, which is the year in which the traffic counts that form the basis of the traffic study were conducted. Based on the MassDOT data, June traffic volumes were equivalent to average month volumes at station 3991 and 9 percent higher than average month volumes at station 310. October traffic volumes were 11 percent higher than average month volumes at station 3991 and 7 percent higher than average month volumes at station 310. The data used to assess seasonality of the traffic volumes was taken during COVID and therefore might not be representative of “normal” traffic volumes. A review of traffic data at these continuous count stations taken pre COVID was performed. Based on this information traffic volumes are generally higher than average conditions during the months of June and October. Therefore, RMA concurs with the findings. **Comment resolved.**

Comment 4: Figure 3 shows the Existing adjusted traffic volumes at the study area intersections. The intersections of Boston Road with Route 146, Dudley Road and Galaxy Pass are all within 1,000 feet of each other. There are very few curb cuts between Boston Road and Galaxy Pass and therefore volumes between the three intersections should balance. It is recommended that the applicant balance the traffic volumes between the three intersections. The same comment therefore applies to the No-Build and Build volume networks. The applicant responded that traffic volumes along Boston Road were reviewed and balanced upward where appropriate between Route 146 and Galaxy Pass.

Based on a review of the revised networks, it appears that volumes are still unbalanced traveling westbound between Galaxy Pass and Dudley Road during

the Existing Weekday Morning peak hour. **It is recommended that the Existing Weekday Morning traffic volumes between Galaxy Pass and Dudley Road be updated to balance.**

Comment 5: Accident data were reviewed and summarized within the traffic study. Calculated crash rates were found not to be significant at the intersections of Boston Road with Dudley Road/Pleasant Road, Galaxy Pass and Providence Road. The intersection of Boston Road at Route 146 has a crash rate much higher than the statewide and district wide averages. Furthermore, this intersection is listed as a Top 200 Crash Cluster for the years 2017 to 2019. It was not specified if a Road Safety Audit (RSA) has been conducted for this intersection. It was recommended that the applicant confirm if an RSA has been conducted or is currently underway. If not, it was recommended that the applicant perform an RSA at the intersection of Route 146 and Boston Road to determine any measures that may be implemented to improve safety.

The applicant responded that VHB is currently in the process of initiating an RSA at this location. The RSA will be conducted in coordination with Town of Sutton staff, MassDOT, and other stakeholders. VHB anticipates that the RSA will be completed in the summer of 2022. The RSA will be completed in advance of finalizing the traffic study for the full buildout of the site, which will include all three buildings that are part of the overall master plan. **Comment resolved.**

Comment 6: A 7-year design horizon was used for the No-Build and Build condition analyses consistent with MassDOT's *Transportation Impact Assessment Guidelines*. An annual growth rate of 1.0 percent per year was used to project the future No-Build volumes. The study used a recent traffic study prepared for another project in town that went through MassDOT review to determine the annual growth rate. This traffic study was performed in 2021 for the Blackstone Logistics Center. It was recommended that the applicant provide the data that was used to develop the annual average growth rate in the Blackstone Logistics Center traffic study to confirm the use of this growth rate. The applicant included this information in the Appendix. **Comment resolved.**

Comment 15: The traffic study included traffic associated with the Blackstone Logistics Center at 40 and 100 Lackey Dam Road which is proposed to contain a 640,000 square foot warehouse. In addition, the study describes smaller residential developments at 19 Canal Street and 15-17 Rice Road in Millbury as well as some additional development potential at the Pleasant Valley Crossing Phase III project. These developments were assumed to be included in the annual average growth rate. While we concur that the traffic from smaller development projects can be accounted for the annual growth assumption, it was recommended that the applicant provide more information regarding the sizes of these smaller

developments. Furthermore, given the proximity of the site to other towns, it was recommended that the applicant reach out to local officials in Millbury and Grafton to determine if there are any planned or approved developments that would have an impact on the study area.

The applicant reached out to the towns of Millbury, Grafton, Sutton, Uxbridge and Douglas to obtain information about relevant projects for inclusion in the traffic study. The following developments were included in the study:

Millbury

- 15-17 Rice Road: 26 residential duplex buildings totaling 52 units, approximately one mile north of the project site.
- 19 Canal Street: 59 residential units approximately two miles north of the project site.

Grafton

- Fisherville Terrance: 100 residential homes approximately two miles east of the project site.
- 61 Maple Avenue: 37-lot residential subdivision approximately three miles east of the project site.

Uxbridge

- Blackstone Logistics Center: 650,000 square feet of warehouse/distribution space approximately 550 feet north of the Route 146 northbound on ramp.
- Lackey Dam Road Logistics Center: 220,000 square feet of warehouse/distribution space on Lackey Dam Road near the Sutton and Uxbridge town lines.
- Campanelli Business Park Phase 1: 800,000 square feet of industrial space on Campanelli Drive, which is currently in operation. Any trips associated with remaining space were included in analysis.
- Campanelli Business Park Amazon Facility: an Amazon sortation facility proposed at 515 Douglas Street.

Douglas

- Gilboa Street Warehouse: 1.1 million square feet of warehouse space on Gilboa Street.

Traffic volumes associated with the above-mentioned developments were included in analysis. **Comment resolved.**

Comment 8: It was recommended that the applicant confirm that there are no planned or approved roadway improvements within the study area. The applicant reached

out to the towns of Millbury, Grafton, and Sutton to determine if there are any roadways projects in the vicinity of the study area. The Town of Grafton is currently in the design process for a 2.05-mile-long project on Main Street (Route 122A) between the Sutton Town Line and Providence Road (Route 122). The project will construct new sidewalks with handicap accessibility, new and reset granite curbing, and a new reconstructed/resurfaced roadway with bicycle accommodating shoulders. This project is currently at the 25 percent design stage. There are no other significant projects identified near the project site. **Comment resolved.**

Comment 9: Based on the site plan, Building 2 is proposed to be 652,530 square feet and Building 3 is proposed to be 343,206 square feet, totaling 995,736 square feet. The trip generation of the site was based on a larger warehouse size of 1,005,000 square feet. It was noted that both buildings will not house e-commerce last-mile home delivery operations.

The study notes that operations at other similar sites in Sutton and Lancaster were reviewed to determine the appropriate land use to use and empirical traffic data were also collected at these sites. Based on this information, the trip generation of the development was estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual* for High-Cube Transload and Short-Term Storage Warehouse (Land Use Code 154). Although the study references the 10th Edition of the ITE manual, the trip calculations provided in the Appendix correctly use the 11th Edition of the manual.

It was found that the ITE data resulted in higher trip generation than the empirical data collected at the similar Sutton and Lancaster sites. To provide a conservative analysis, the ITE trip generation data were used and it was assumed that the peak of traffic operations for the two buildings occurs at the same time as the peak of the roadway traffic, therefore the weekday AM and PM peak hour of generator data were used to provide a conservative analysis. It was recommended that the volume of truck traffic be broken out separately from the total trip generation. It was further recommended that the Applicant submit the empirical data for the two existing sites referenced to verify the trip generation. The applicant supplied trip generation estimates for the volume of truck traffic to the site as well as the empirical data for trip generation. **Comment resolved.**

Comment 10: It was recommended that a separate distribution pattern be developed for truck traffic to and from the site as this may differ substantially from the employee distribution. The applicant should submit updated trip distribution and Build volume networks and also include the Unified Parkway and Providence Road intersection as discussed in Comment 29. The applicant responded that 100 percent of truck traffic is expected to/from Route 146. Truck traffic was estimated

using the ITE trip generation manual. Updated truck trip assignment networks were included in the Appendix. Updated Build networks were also included in the Appendix. **It is recommended that the applicant update the site generated networks to show the volume of trucks as well as the volume passenger vehicles (broken out separately) traveling through the study area.**

Comment 11: The intersection of Route 146 and Boston Road currently experiences severe capacity constraints with most movements operating at level E or F that will be exacerbated by additional traffic from the development. While additional capacity improvements may be difficult at this location, it was recommended that the Town of Sutton consider requiring the applicant to prepare a Road Safety Audit at this intersection to determine if safety improvements can be implemented by the applicant to at least lower the accident experience, as described in Comment 5. As previously mentioned, an RSA is being initiated at this intersection. Furthermore, it is assumed that improvements will be required with the permitting of a future Building 1. **Comment resolved.**

Comment 12: Existing, No-Build, and Build analyses may need to be re-run based on our prior comments regarding network balancing, traffic adjustments, and trip generation and distribution assumptions. The applicant updated analyses based on the prior assumptions. The existing traffic volume networks may still need to be revised during the weekday AM peak hour as mentioned in Comment 4. **It is recommended that the applicant revise the weekday AM peak hour volumes and rerun analyses for that time period.**

Comment 13: Given that a significant portion of the site trips will be tractor trailer trucks, it was recommended that the capacity analyses be updated to reflect an increase in the percentage of heavy vehicles on the movements affected by development truck traffic. The applicant noted that the original study reflected updated heavy vehicle percentages. It was further noted that the addition of site generated truck traffic will have limited impacts on heavy vehicle percentages. RMA concurs. **Comment resolved.**

Comment 14: The signalized intersection analyses were performed using the Highway Capacity Manual (HCM) 2000 methodology. It was recommended that the results be updated to reflect the newest HCM 6th methodology, or a reason be provided why this older version of the methodology was used. It was noted by the applicant that HCM 6 and HCM 2010 methodologies have limited capabilities related to non-standard traffic signal phasing and cannot analyze permitted left-turn movements from a shared left turn/through lane, which exists at the intersection of Boston Road and Galaxy Pass. Therefore, the HCM 2000 methodology was used at both signalized intersection for consistency. RMA concurs. **Comment resolved.**

Comment 15: The No-Build and Build weekday AM and PM traffic volumes at the intersection of Boston Road and Providence Road in the Synchro reports do not all match the traffic volumes within the No-Build and Build traffic volume networks. It was recommended that these traffic volumes be updated to match the networks. Traffic volumes for the No-Build and Build networks were updated based on the recommended adjustments. **Comment resolved.**

Comment 16: Available sight distances from the proposed Unified Parkway intersections with Boston Road and Providence Road were not measured or compared with minimum requirements. It was recommended that the applicant measure sight distances at the proposed site driveway locations and compare the findings with the minimum requirements based on observed 85th percentile speeds on the adjacent streets as established by the American Association of State Highway and Transportation Officials (AASHTO).

The applicant responded that they are currently updating the off-site roadway improvement plans based on the initial comments received from various sources. Sight distance measurements at the intersections at both ends of Unified Parkway will be included in an updated submittal of the revised roadway improvement plans under a separate cover when they are ready. **Comment resolved pending review of the updated sight distance measurements.**

Comment 17: The site plan proposes to construct Unified Parkway connecting Boston Road and Providence Road and providing access to Buildings 2 and 3. Both ends of Unified Parkway will provide dedicated left and right turn lanes exiting the site. Access to both buildings is proposed via driveways intersecting Unified Parkway. It was recommended that the Unified Parkway exits onto Boston Road and Providence Road as well as the internal driveways operate under stop control with stop lines and STOP signs (R1-1) placed on the driveway exits. The applicant responded that the updated site plans prepared by Bohler Engineering show the recommended signage and pavement markings. **Comment resolved.**

Comment 18: Truck turning movements are shown for right turns into and out of the site at the Providence Road driveway, however no turning movements are shown at the Boston Road driveway. It was recommended that tractor trailer truck (WB-67) turning movements also be shown at the Boston Road intersection with Unified Parkway. The applicant responded that truck turning templates for the site driveways on Unified Parkway are included in the revised site plans prepared by Bohler Engineering. The applicant is currently updating the off-site roadway improvement plans based on the initial comments received from various sources. Truck turning templates for the intersection of Boston Road/Unified Parkway will be included in an updated submittal of the revised roadway improvement plans

under a separate cover when they are ready. **Comment resolved pending review of the updated turning movements on the site plan.**

Comment 19: The fire department's largest vehicle should be able to traverse the site. It was recommended that AutoTurn (or a similar program) be used to show a swept-path analysis of the largest fire truck to be used around the site. It was also recommended that the proponent coordinate with the Sutton Fire Department regarding accessibility to all sides of each building. Since the largest fire truck takes smaller turns than a WB-67 any turning movements associated with a fire truck would be shown in the WB-67 movements. **It should still be confirmed that the fire department has adequate accessibility to all sides of each building.**

Comment 20: Truck circulation should be shown on the site plans showing how trucks will access the parking area or the loading bays. It was recommended that AutoTurn (or a similar program) be used to show tractor trailer truck (WB-67) circulation through the site. The applicant should also consider including truck wayfinding signage through the site to ensure that the trucks do not access areas designated for passenger vehicles.

Truck turn exhibits have been included for both inbound and outbound movements. Wayfinding signage is also being developed and the applicant will present a complete sign package to the Planning Board prior to installation of signage. **Comment resolved.**

Comment 21: The applicant should investigate the available sight lines at the Building 2 and 3 access driveways onto Unified Parkway. Of particular concern is the driveway to Build 2, where the horizontal and vertical curvature of Unified Parkway may introduce sight line constraints, both for motorists exiting the Building 2 driveway and for motorists making a left turn into the driveway. The site plan should show the sight triangles at these driveways to assure that any proposed landscaping or signs are outside these sight triangles and do not impede driver visibility.

The Updated Site Plans show that the required sight distances, calculated based on AASHTO requirements, will be available at the two Project driveways on Unified Parkway. In fact, the plans indicate that actual available sight lines can be expected to be much longer than the required sight line calculations. **While it appears that the minimum required sight distances can be met on the site plan, it is recommended that sight line profiles be developed to ensure that the vertical curvature of the roadway does not impede sight lines.**

Comment 22: Based on the site plan and definitive subdivision plan, a sidewalk is proposed along the westerly side of Unified Parkway with a crosswalk across Unified Parkway connecting to a sidewalk along the Building 2 driveway. The location of this crosswalk may not allow sufficient sight distance for motorists to see pedestrians in the crosswalk due to the horizontal and vertical alignment of Unified Parkway. It was recommended that sight distances to the crosswalk be evaluated and corrective actions be taken is a safe crossing at this location is not feasible. Further, all crosswalks should have ADA compliant wheelchair ramps. **As recommended in Comment 21, sight line profiles should be developed to ensure that the vertical curvature of the roadway does not impede sight lines.**

Comment 23: The site plan proposes 493 parking spaces. As labeled on the site plan, per zoning requirements, 323 parking spaces are required for Building 2 and 172 parking spaces are required for Building 3 for a total of 495 parking spaces. It was suggested that the town determine if the number of parking spaces proposed is adequate for the site.

The applicant responded that they are seeking a waiver of these minimum parking requirements pursuant to Section IV.B.6 of the Bylaw. The proposed parking is sufficient to meet employee and operational demands for the project. Furthermore, by providing less than the minimum number of required parking spaces, the project avoids creating unnecessary impervious areas, which will improve stormwater management and drainage performance. **It is still suggested that the town determine if the number of parking spaces proposed is adequate for the site.**

Comment 24: Based on a review of the roadway improvement plans, two lanes westbound will be carried through from Unified Parkway to Galaxy Pass. Eastbound a dedicated left turn lane will be provided into Unified Parkway. The site plan shows dedicated left and right turn lanes on Unified Parkway however the roadway improvement plans do not show that. It was recommended that the site plan and roadway improvement plans coincide to show the proposed lane arrangements. The applicant responded that they are currently updating the off-site roadway improvement plans based on the initial feedback from the Board in an effort to not impact the adjacent Sycamore tree. Revised roadway plans will be included in an updated submittal under a separate cover when they are ready.

A revised roadway improvement plan was sent via email on June 23, 2022. The site plan is still conceptual, however, the proposed site driveway on Boston Road was shifted slight east to prevent impacts tot the adjacent Sycamore tree. Based on an initial review of the site plan, there are a few initial comments associated with design. **A two-lane approach should be shown on Unified Parkway if two lanes are proposed in the future. All travel lanes on Unified Parkway should**

be 12 feet wide with five-foot shoulders to accommodate bike travel on Unified Parkway. The stop line on Unified Parkway should be parallel to Boston Road. On Boston Road, 11-foot-wide through lanes should be provided with a 10-foot-wide dedicated left turn lane. Four-foot-wide shoulders (preferably five feet) should be provided to accommodate bike travel on Boston Road. Any proposed signage should be shown on the plans. WB-67 truck turning movements should be shown on the plans as well as sight lines. Furthermore, the revised plans no longer show two westbound travel lanes between Unified Parkway and Galaxy Pass. The applicant should confirm if the lengths of the dedicated left turn lanes into Galaxy Pass and Unified Parkway are adequate to accommodate demand.

Comment 25: The proposed stop line on Unified Parkway at its intersection with Boston Road is set far back from the road. This stop line location will result in sight line restrictions at the driveway given the grades and vegetation on either side of the driveway. It was recommended that the stop line be moved forward (no further than 10 feet from the new Boston Road curb line). The corner radii may need to be increased, or Unified Parkway widened at this intersection to allow tractor trailer trucks to safely make the turns based on this stop line location. In addition, a sight line plan and profile should be provided showing that minimum required sight lines can be attained at this location.

As previously mentioned, the applicant is currently updating the off-site roadway improvement plans based on the initial feedback from the Board in an effort to not impact the adjacent Sycamore tree. Revised roadway plans will be included in an updated submittal under a separate cover when they are ready. **Comment resolved pending review of the updated site plan and sight line profiles.**

Comment 26: As mentioned in Comment 18, it was recommended that truck turning movements at this intersection be shown on the plans. The applicant responded that truck turning templates for the intersection of Boston Road/Unified Parkway will be included in an updated submittal of the revised roadway improvement plans under a separate cover when they are ready. **Comment resolved pending review of the updated site plan and turning movements.**

Comment 27: The plan proposes 12-foot wide through and left-turn lanes with 2-foot-wide paved shoulders. It was recommended that the applicant consider 11-foot wide through lanes and 10-foot wide left-turn lanes to allow 5-foot-wide paved shoulders to be constructed that would accommodate bicycle traffic along Boston Road. The applicant responded that the project design team believes that 10-foot-wide turn lanes would not be adequate for efficient and safe traffic operations. Reducing the through travel lanes to less than 12 feet was also determined to be less desirable, but will be investigated further. As previously mentioned, the

applicant is currently updating the off-site roadway improvement plans based on the initial feedback from the Board in an effort to not impact the adjacent Sycamore tree. Revised roadway plans will be included in an updated submittal under a separate cover when they are ready. **See Comment 24.**

Comment 28: It was suggested that the plans show the proposed 5-foot-wide sidewalk along the westerly side of Unified Parkway and how this sidewalk will terminate at the intersection. The applicant responded that the sidewalk, as well as 5-foot paved shoulders mentioned in the prior comment, contribute to added cross-sectional width, which needs to be balanced with the goal of minimizing impacts to large growth trees, stonewalls, and adjacent property access, etc. The Applicant proposes to continue reviewing the multimodal needs for the corridor with the Town Planning Department and will incorporate the features that are deemed most important to the Town within the available ROW. **Comment resolved pending review of the updated site plan.**

Comment 29: In response to comments received at a meeting with the applicant on April 20, 2022 VHB provided a supplemental analysis to include the intersection with Unified Parkway and Providence Road. As part of the analysis, traffic to and from the north on Providence Road were now assumed to utilize the intersection of Unified Parkway and Providence Road to access the site. As discussed previously, it was recommended that separate distribution patterns be developed for truck traffic and employee traffic. Truck routes to/from the site will likely follow a different travel pattern than employees. Furthermore, it appears that ATR data from June 2021 were used for the through volumes on Providence Road. While the projected Build volumes at the intersection are higher than the collected ATR counts, no information is provided on how these volumes were derived and what seasonal, COVID, or historical growth adjustments were made. This information should be provided to verify the future volume projections.

The applicant noted that as mentioned in Comments 10 and 13, separate truck trip distribution patterns were already incorporated into the original traffic study. The truck trip distribution patterns are provided in the Appendix. Adjustments to the traffic volumes along Providence Road at the proposed location of Unified Parkway are consistent with adjustments used for the other study area intersection locations. A COVID adjustment factor of 1.11 was applied to the weekday morning peak hour traffic volumes. A COVID adjustment factor was not applied to the weekday evening peak hour traffic volumes based on the evaluation provided in the original traffic study. Seasonal adjustment factors were also not applied to the June traffic counts on Providence Road, based on the information provided in the response to Comment 3. An annual traffic growth rate of 1.0 percent and traffic from the background projects identified in the response to

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Comment 7 were incorporated into the development of the future conditions traffic volumes along Providence Road. **Comment resolved.**

Please feel free to contact me if you have any questions regarding this review.

Sincerely,

Ron Müller & Associates

A handwritten signature in cursive script, appearing to read "Kirsten Braun".

Kirsten Braun, P.E.
Associate