



Traffic, Transportation and Parking Consultants

October 24, 2024

Mr. Rick Theilig
General Manager
CPD Energy Corp
536 Main Street
New Paltz, NY 12561

RE: Review of Traffic Impact Study
Proposed QuickChek Market with Fuel Sales
Town of Newburgh, New York

Dear Mr. Theilig:

As requested, we have reviewed the Traffic Impact Study (TIS) for a proposed QuickChek Market with Fuel Sales in the Town of Newburgh, New York. The TIS, prepared by Stonefield Engineering and Design, LLC and revised on June 20, 2024, shows that a 6,730-sf convenience store with 16 fuel positions would be constructed on a vacant parcel situated to the east of NY Route 17K between Lakeside Road and the westbound Interstate Route 84 exit ramp. Presented herein are our observations and comments (*in bold*) regarding the TIS methodology and its findings.

1. **Site Access**

Access to the Project would be provided by driveways from Lakeside Road. The report describes the access as consisting of four driveways, while the traffic Figures and Capacity Analyses appended to the report show three driveways.

This apparent discrepancy needs to be clarified.

2. **Study Intersections**

The TIS analyzed the existing and future traffic conditions at six existing Study Intersections in the area, as well as the future traffic conditions at the Project's driveways.

Based on our field observations of the roadways in the vicinity of the Project and a review of the existing traffic volumes in the TIS, it is our opinion that analysis of the six Study Intersections is adequate to determine the impact of the Project.

3. **Accident Assessment**

The TIS states that accident data was obtained for each Study Intersection covering the latest 54-month period and includes Tables listing the number and type of accidents at the various

intersections. The TIS notes that no fatalities were recorded and states that the Project will not adversely impact the current accident rates.

We have some comments regarding the Accident Assessment:

- a. ***It does not appear that any analyses were performed to justify the statement that the Project will not impact accident rates. The Project is expected to increase passenger and truck traffic in the area, and the safety impact of the additional trucks should be addressed.***
- b. ***There is no assessment of the accidents to determine whether they indicate a need for roadway modifications or other types of improvements. Such an assessment is generally required by the New York State Department of Transportation (NYSDOT) and should be performed.***
- c. ***There are no calculations of the Accident Rates at the Study Intersections and comparisons to Statewide Average Rates. This assessment is also generally required by NYSDOT and should be performed.***

4. Parking Availability

The Project will provide 62 parking spaces, which, based on calculations included in the TIS, will exceed the Town of Newburgh parking requirements for the Project.

We estimated the Project's parking needs using average rates in the Parking Generation Manual published by the Institute of Transportation Engineers (ITE). The estimates indicate that the Project will require 55 parking spaces, which indicates that the 62 spaces will be adequate.

5. Hours of Analyses

The analyses and traffic projections in the TIS assess traffic conditions during the weekday Peak AM and PM Highway Hours and the Saturday Peak Midday Hour.

The hours analyzed in the TIS typically represent periods with higher traffic volumes and are acceptable for commercial developments.

6. Traffic Counts

Turning movement traffic counts were performed on Thursday, February 8, 2024, and Saturday, February 10, 2024. Tables of the counted traffic volumes at each of the Study Intersections are appended to the TIS.

We checked the weather conditions during the survey dates and found them acceptable. We also reviewed the traffic count Tables and note the following:

- a. *A Table listing the Peak AM and PM Hours traffic counts at the NY Route 17K/Lakeside Road intersection is not provided (another intersection was inserted twice). Since this intersection will be most impacted by the Project, the traffic count data must be provided.*
- b. *The traffic Tables do not show counts of the Heavy Vehicles, vehicles turning right-on-red, pedestrians and bicyclists. This data is input into the Capacity Analyses and must be provided.*

7. Existing Traffic Volumes

The February traffic volumes were used as the existing volumes in the TIS and formed the basis for the estimates of the future volumes.

The counted volumes were not seasonally adjusted. Although the weather was acceptable during the traffic count dates, traffic volumes during February are typically lower than those of the average month. Data published by NYSDOT must be consulted to determine whether seasonal adjustment is necessary.

8. Design Year 2026 No-Build Traffic Volumes

The Year 2026 No-Build Traffic Volumes were estimated by increasing the counted volumes by a general traffic growth rate and by adding the anticipated trip generations of three other developments in the area.

a. General Traffic Growth

Based on data published by NYSDOT, the Year 2024 Existing Traffic Volumes were increased by an annual traffic growth rate of 1.0 percent to the Design Year 2026.

Use of NYSDOT growth rates for traffic projections is standard practice and acceptable.

b. Other Development Trip Generations

The trip generations of three other proposed developments that are expected to increase the traffic volumes in the vicinity of the Project were taken from traffic studies performed for those developments and added to the increased traffic volumes.

This is also standard practice and the methodology is acceptable.

9. Project Trip Generation Estimates

a. Total Generations

The trips expected to be generated by the Project were estimated using Hourly Trip Generation Rates published by the ITE. Two separate trip generation estimates were made,

one based on the number of fueling stations and one based on the size of the building. The higher resulting estimates were used for the traffic projections.

We performed generation estimates using the ITE data and found the estimates in the TIS accurate.

b. Pass-by Trip Reductions

The TIS notes that the Project's trip generations will not be completely new to the area due to Pass-by Trips. Pass-by Trips will occur when drivers already on the roadways traveling to/from other locations stop at the Project to purchase items or gasoline and then continue to their destination. The Pass-by credits used in the TIS are based on directions from NYSDOT.

We reviewed the Pass-by Trip credits and found them acceptable.

10. Distribution of the Project's Trip Generations

The distribution of the Project's trip generations on the surrounding roadways was determined based upon an assessment of the existing traffic volumes in the area.

We reviewed the traffic volumes in the TIS and found the trip Distributions reasonable.

11. Design Year 2026 Build Volumes

The Project's trip generations were distributed through the Study Intersections per the Distributions and added to the No-Build Traffic Volumes, resulting in the Year 2026 Build Traffic Volumes.

This is a standard methodology and acceptable.

12. Capacity Analyses Methodology

Capacity Analyses of the Existing, No-Build and Build Traffic Volumes were performed for the Study Intersections using Synchro Software and copies of the Capacity Analyses printouts are included in the TIS.

Capacity Analyses of the Existing, No-Build and Build Traffic Volumes is standard practice, and the Synchro software is widely used and acceptable. A spot check of the Capacity Analyses printouts in the TIS did not find any discrepancies in the intersection geometries, traffic volumes, signal operations, etc., data input in the Analyses.

13. Capacity Analyses Findings

As previously noted, three sets of Capacity Analyses were performed comparing the Existing, No-Build and Build Traffic Volumes to the existing intersection geometries and traffic controls.

Because the Build Analyses for the NY Route 17K and Lakeside Road intersection determined that the Project would negatively impact traffic conditions, additional Analyses were performed to identify mitigation measures.

The findings of the Capacity Analyses are summarized in the TIS in various Tables that compare the Peak-Hour traffic conditions with the Existing, No-Build and Build Traffic Volumes and present the Levels of Service and Average Delays for the individual traffic movements and the overall intersection.

The Tables show, other than the NY Route 17K/Lakeside Road intersection, that the overall traffic conditions at the other Study Intersections will be acceptable. However, the Tables also show that several individual movements in those intersections will operate at unacceptable Level of Service “E” and experience long delays.

14. NY Route 17K and Lakeside Road Traffic Conditions

a. Traffic Flow Impact

Most of the Project’s trip generations are expected to pass through this intersection. The Levels of Service and Delays Tables show that the general traffic growth and the trip generations of the other three developments will not significantly impact the Existing Traffic Conditions. The Tables also show that the Project will have a significant negative impact on the Lakeside Road approach to the intersection and create very long delays. To mitigate the negative impact, the TIS proposes the following modifications intended to eliminate the long delays:

- Stripe the Pilot Travel Center driveway approach to provide one through/left-turn lane and one right-turn lane.

It is noted that the Capacity Analyses were performed with this geometry. However, the Table shows a left-turn lane and a through/right-turn lane. This discrepancy needs to be clarified.

The existing driveway, which is not currently striped, is wide enough to accommodate two lanes. However, it’s not clear who would implement this modification since the Project may not have the right to stripe the driveway.

- Widen the Lakeside Road approach to provide a double left-turn lane and a through/right-turn lane.

Since the proposed Project will generate truck traffic, a truck turning path analysis must be performed to determine whether a double left turn could be safely made and whether the existing NY Route 17K width is sufficient to receive two trucks turning left concurrently, or whether the NY Route 17K pavement will need widening.

- Modify the existing signal timing to take green time away from the Pilot Travel Center approach and add that green time to the Lakeside Road approach.

The timing changes will negatively impact traffic on the Pilot Travel Center driveway. For example, while the proposed timing changes and the roadway widening will reduce the Peak AM Hour Average Delays on the Lakeside Road approach from 487.9 seconds to 54.3 seconds, the Average Delays on the Pilot Travel Center driveway will increase from 35.3 seconds to 59.4 seconds.

b. Vehicle Queues

The TIS presents a summary of the Existing, No-Build, and Build vehicle queues on the Lakeside Road approach to the intersection. Per the Table, without any modifications, the Build queues on the approach will exceed the distance to the Project's driveway and impede traffic flow.

We reviewed the Table and the Capacity Analyses findings and note the following:

- *Although the calculated vehicle queue lengths are shown in the Capacity Analyses printouts for the Existing and No-Build Conditions, the queue lengths are not shown in the printouts of the Build and Build with Mitigation Conditions. The Capacity Analyses must be revised to show the queue lengths.*
- *The vehicle queue lengths shown in the Table represent average conditions. The Table should also show the longer 95th Percentile queue lengths typically used in analyses.*

We trust the findings presented herein are clear and adequately respond to your request. Please call us if you have any questions.

Respectfully submitted,
MICHAEL MARIS ASSOCIATES, INC.



Michael Maris
President



John Maris
Vice President

cc: Mr. James Bacon, Esq.