



MEMORANDUM

TO: Jim Gildea, Town Administrator, Westfield

FROM: John Federico, WSP

CC: Chris Colley, Topology
Matt Seckler, Stonefield
Brian Stankus, WSP

SUBJECT: **Response to Letter from Marvin C. Gersten**
RE: Traffic & Parking Assessment Report, 201 Prospect Street

DATE: May 6, 2022

WSP has reviewed the April 30, 2022, letter submitted to Mayor Brindle, Administrator Gildea, and Town Council by resident Marvin Gersten regarding the *Traffic & Parking Assessment Report (TAR) for 201 Prospect Street*. The TAR was prepared by Stonefield Engineering & Design LLC (Stonefield) and reviewed by WSP on behalf of the Town.

Specific comments extracted from the memo are ***highlighted*** below. In preparing this memo, WSP reached out to Stonefield for more information about their methodology and approach beyond what is presented in the TAR. Responses from Stonefield are included below each item, followed by WSP's assessment of their response and/or additional comment.

- **Executive Summary Item #2. The typical weekday PM peak hour traffic counts were made from 4:00 p.m. to 7:00 p.m. *I believe that the afternoon peak begins earlier, even as early as 2:30 p.m.***

Stonefield Response: The counts conducted in April 2022 began at 3:00PM. Roosevelt School dismissal is at 2:47PM and the district-wide elementary school's dismissal bells are at 3:05PM. By the time most students get to the YMCA, it would be most affecting the 15 minutes starting at 3:00PM, not the 15 minutes starting at 2:30PM. The April 2022 counts included with the TAR show that the intersection of Clark Street and Ferris Place had 361 vehicles from 3:00PM to 4:00PM. We based our analyses on the highest hour collected at this intersection, which was 4:45PM to 5:45PM (from the October 2021 counts) where there were 474 vehicles going through the intersection in an hour. For the 2:30PM hour to be the greatest volume hour or the entire day, the intersection of Clark Street and Ferris Place would have to experience 279 vehicles from 2:30PM to 3:00PM. By comparison, the largest volume within a 30-minute interval that we counted was 264 vehicles from 4:45PM-5:15PM in October 2021.



We also looked at NJDOT ATR data from all around Westfield including a counter on Rahway Avenue near Edison Intermediate School and Tamaques Elementary School, as well as on Mountain Avenue, Broad Street, and Central Avenue and in no case was the peak hour at 2PM or 3PM.

WSP Response: We also evaluated the traffic count data and came to the same conclusion that the peak hours used in the TAR are the times with the highest overall traffic volumes in this area.

- **Executive Summary Item #4. *Escalating by 1 percent to 2023. This seems to me to be too soon, not projecting to 2025 or 2026 ignores the additional traffic expected after the Lord and Taylor site is redeveloped.***

Stonefield Response: We can push out Build out to 2024, but we do not expect a significant change in the measurement of increased delay related to this development. The Lord and Taylor site would need to prepare its own traffic impact study, taking into account our development traffic (assuming the 201 Prospect Street development is approved). This application should not be burdened by the trip generation and traffic impacts of another project.

WSP Response: We concur that pushing out the Build Year to 2024 is appropriate given the current status and timing of the project. We also agreed that the trip generation from the proposed Lord & Taylor site is most appropriately accounted for through the traffic impact study that will be required for that project.

- **As noted in the Report, Stonefield collected gap acceptance data. Were these used to estimate the capacities?**

Stonefield Response: Vehicular gaps in northbound and southbound traffic along North Avenue were recorded during the weekday morning, weekday evening, and Saturday midday peak hours to evaluate existing vehicular headway conditions and determine if there is adequate capacity to accommodate left- and right-turn movements from Clark Street. The data was analyzed using minimum gap acceptance rates determined by field observations. The base critical headway for a left-turn and right-turn from Clark Street onto North Avenue were utilized as inputs in the capacity analysis of the intersection.

WSP Response: As Stonefield states, the field-collected gap data was used in the capacity analysis for the Clark Street and North Avenue intersection. We reviewed this analysis and did not find any issues with the methodology.



- **How did the estimated capacity of eastbound Prospect Street of 1,420 vehicles per hour at the approach to Ferris Place decrease to 273 vehicles per hour at East Broad Street?**

WSP Response: The difference in estimated capacity cited above is a function of eastbound Prospect Street at Ferris Place being free-flow (i.e. not controlled) while eastbound Prospect Street at East Broad Street is stop-controlled. The introduction of stop-control significantly reduces the estimated capacity at that location.

- **Suggestion to use Urban Street Methodology from HCM, which states that taking field measurements (surveys) for use as inputs to an analysis is the most reliable way to generate parameter values**
 - *Marvin noted that a 6th edition was published in 2010 and a 7th edition was published in 2020 and asked that any revisions to these two chapters could be reviewed by Westfield’s Traffic Consultant to identify any differences from his findings.*

Stonefield Response: The methodology behind conducting Urban Street Segment analysis was updated in HCM 2010, which is the manual which immediately succeeds the one referenced (current manual is two additional iterations after HCM 2010). From HCM 2010, Chapter 1, Section 5 “What’s New in the HCM 2010” (pg 1-12):

Urban Street Segments

This chapter has been completely rewritten. The work of the NCHRP 3-79 project has been incorporated into the chapter, providing improved methods for estimating urban street free-flow speeds and running times, along with a new method for estimating the stop rate along an urban street. In addition, the work of the NCHRP 3-70 project has been incorporated, providing a multimodal LOS methodology that can be used to evaluate trade-offs in how urban street right-of-way is allocated among the modes using the street.

In the latest edition, HCM 2020 (7th Edition), there are explicitly listed limitations to the methodology that would not make it a useful tool for this location/project. In the description of the point/segment analyses for Urban Streets, our condition of a non-coordinated signal system with an uncontrolled stop condition is explicitly referenced as a condition that is typically not analyzed using Urban Streets methodology. Additionally, further in the text it defines Boundary Points for the analyses. Since the Ferris/Prospect Street intersection has no stop-controlled through movement, it does not technically have a beginning Boundary Point to allow for the analyses to be performed.

The link and its boundary points must be evaluated together to provide an accurate indication of overall segment performance. For a given direction of travel along the segment, link and downstream point performance measures are combined to determine overall segment performance.

If the subject segment is within a coordinated signal system, the following rules apply when the segment boundaries are identified:

- A signalized intersection (or ramp terminal) is always used to define a segment boundary.
- Only intersections (or ramp terminals) at which the segment through movement is uncontrolled (e.g., a two-way STOP-controlled intersection) can exist along the segment between the boundaries.

If the subject segment is not within a coordinated signal system, the following rules apply when the segment boundaries are identified:

- An intersection (or ramp terminal) having a type of control that can impose on the segment through movement a legal requirement to stop or yield must always be used to define a segment boundary.
- An intersection (or ramp terminal) at which the segment through movement is uncontrolled (e.g., a two-way STOP-controlled intersection) may be used to define a segment boundary, but it is typically not done.

WSP Response: We concur with Stonefield’s assessment that an Urban Street Segment approach based on detailed field surveys is not the appropriate methodology for analyzing this study area.

- ***If Stonefield conducted travel time, speed and delay surveys on Prospect Street, Ferris Place, Clark Street, and North Avenue as part of the traffic impact study, would the results have shown different (worse) Levels of Service than the estimates they have reported?***

WSP Response: The goal of Stonefield’s traffic studies, and of WSP’s technical reviews, has been to identify traffic impacts and operational/safety issues associated with the development of the proposed site at 201 Prospect Street. Given the relatively low site trip generation (less than 30 trips per peak hour), small study area, and our assumption that traffic impacts associated with the much larger Lord & Taylor site will be addressed in a separate study prepared for that development, we are confident that the Stonefield traffic impact report, as it stands, has accurately projected the traffic impacts of the proposed site.