



RESPONSE TO TILGHMAN GROUP COMMENTS

To: John Shaw, City of Seattle
From: Matthew Palmer, PE *MJP*
Subject: Response to Tilghman Comment Memo
Project: 2939 E Madison, City of Seattle Project #3020338, GTC #16-097
Date: May 26, 2017

This Memorandum addresses the Tilghman Group review letter dated September 9, 2016, which commented on the anticipated traffic associated with the proposed mixed-use redevelopment of the 2939 E. Madison property (“Project”).

TILGHMAN GROUP REVIEW RESPONSE

1. *The traffic study should address several important items that were not included in the June version. These items include:*
 - a. *The character of traffic flow. The study calculates intersection levels of service, but does not identify the backups that frequently occur at the area intersections. For example, drivers and residents familiar with area streets know that long back-ups occur at the Madison/Lake Washington Blvd. intersection for eastbound and southbound traffic. Eastbound backups can reach past the site’s driveway, and southbound backups reach well past the Japanese Garden. Vehicles wait through numerous signal cycles to clear the intersection during both morning and afternoon peak hours. Those conditions are not consistent with the report’s calculation of LOS C. Similar backups and long travel times occur on Madison both east and west of 28th Avenue.*

Response: Gibson Traffic Consultants (“GTC”) has performed the following “worst-case” analysis: Assuming the highest volume condition and a traffic distribution with all the traffic taking access from E Madison Street, at the intersection of E Madison Street and Lake Washington Boulevard, Synchro shows a southbound 95th percentile queue of 436 feet, which is before the end of the sports fields, and an eastbound 95th percentile queue of 394 feet, which is approximately 245 feet shy of the Project’s driveway. Additionally, the Project is expected to add only about three cars to the queuing during the busiest hour of the day, with a resultant added delay of approximately 4.4 seconds, which will not significantly change conditions at the intersection. Pedestrian traffic, peak-hour factors and percentage heavy vehicles were all correctly input into GTC’s Synchro analysis, which is the City’s accepted methodology for determining intersection level of service and intersection conditions/queuing conflicts. Therefore, the analysis is appropriate, and the Project’s traffic flow impact is not significant. The 28th Avenue E/Martin Luther King Jr. Way intersection currently has 95th percentile queues of 302 feet in the eastbound direction, 129 feet in the westbound direction, 147 feet in the northbound direction and 111 feet in the southbound direction. Thus, the 28th Avenue E/Martin Luther King Jr. Way queues are not expected to impact the Project site on a normal day. All the Synchro queueing data is included in the attachments for the original TIA and the updated May 2017 update (“5/17 TIA Update”).

- b. *Street widths and off-set intersections. Narrow streets and awkwardly configured intersections reduce traffic flow and should be considered when evaluating the impact of adding traffic and pedestrians due to this project.*

Response: All the lanes have been evaluated in Synchro with a lane width of 12 feet. Reducing this value to 11 feet, or even 10 feet, results in minor increases in the delay that do not change the levels of service at any of the studied intersections. The intersection channelization inputted into Synchro properly mirrors the existing conditions for every intersection analyzed. The detailed inputs are in the original and the updated 2017 reports attachments.

- c. *On-street parking conditions. No assessment of changes to on-street parking supply or demand is offered. While the study recommends removing parking from Dewey Street if access is located there (see p. 32), it does not quantify the impact. The study does not indicate whether any changes to parking on Madison would occur. Given the proposed grocery store, it is reasonable to expect demand for short-term curb-side parking to occur since not all customers can be expected to use the garage.*

Response: Parking removal along the frontage may be desirable to accommodate revised lane channelization or a 40-foot curb cut on E Madison Street. The Applicant has requested a 40-foot curb cut on Madison to allow for simultaneous delivery truck traffic passenger vehicle circulation to minimize impacts on E Madison Street. Parking along the frontage/lane width might remain unchanged assuming that E Madison Street is not reconfigured to include a center turn lane. If parking is restricted, the logical place to remove parking would be along the Project's frontage. The Project's total ITE and "right size" parking demand is 112 vehicle parking spaces. As proposed, the Project will provide 140 on-site vehicular parking spaces in a two-deck parking garage. Therefore, Project traffic is not expected to significantly impact street-side parking, even if some frontage parking is removed.

Regarding the proposed Dewey Place E access, some parking along the Project's Dewey Place E frontage would have to be removed to create the curb cut for the garage entrance. One or two additional parking spaces may require removal to meet sight distance requirements looking toward the corner located on the north side of Dewey Place E. All the removed parking would be along the site's existing frontage.

- d. *The loading, delivery and garbage collection plan. The study should identify the number and type of trucks expected to serve the PCC store and apartments and how they will enter and exit the site. Evaluations of truck needs have been provided previously for other, new PCC stores in the city. It is important to know whether curb-side commercial loading zones will be needed as they may affect on-street parking capacity. Similarly, understanding how garbage will be collected is important to know how it might affect vehicular and pedestrian circulation.*

Response: As stated previously, the Project meets all Code-required parking demand on site. Establishment of frontage loading or unloading zones during the MUP review process will not impact the TIA analysis. Typically, truck deliveries tend to avoid hours of high traffic intensity. To analyze anticipated truck deliveries, Traffic Data Gathering ("TDG"), an independent traffic counting firm, performed a 24-hour count at the PCC located on the east side of Green Lake. TDG determined that a total of 39 (20 inbound/19 outbound) truck trips were generated by the store, approximately 2 truck trips per hour. All the trucks arrived and departed between 5:45 AM-2 PM and 7-9 PM. Based on TDG's observations, GTC concludes that the Project's proposed truck deliveries are not expected to have a significant impact on either vehicular traffic volumes or parking. All of the trucks were single unit trucks with five or less axels. The Project's civil engineer or architect will confirm the feasibility of the loading area design as part of the MUP process. The TDG truck delivery count is included in the attachments to this Memo.

- e. *Pedestrian and bicycle conditions. The study should include an assessment of pedestrian use of area sidewalks and crosswalks, as well as cyclists' use of streets. Adding new residents and a grocery store will increase walking and cycling in the area, especially the need to cross Madison for access to transit. Planned implementation of new bike routes through neighborhood greenways in Madison Valley should be included in the study's analysis.*

Response: Pedestrians and bicycles counts were included in Synchro LOS calculations. Additionally, GTC performed a pedestrian count at the site access (72 pedestrian crossings in the peak-hour of the count) and were included in the updated 5/17 TIA Update.

- f. *Planned BRT operations. The Bus Rapid Transit project planned for Madison would terminate at Madison/MLK/28th. Expected to enter service in 2019, the effect of more frequent buses and their turning maneuvers on traffic operations should be included in the study's analysis.*

Response: Typically, the impact of improved transit is to remove vehicular trips from the roadway that the improved transit is servicing. According to City of Seattle staff, the BRT's last stop would be at 23rd Avenue E, approximately a half mile from the Project site. This distance, combined with the uphill climb to get to this station, is likely to cause pedestrians to use more local transit stops in lieu of walking to 23rd Avenue E. Even if the BRT were to influence traffic operations in the vicinity of the Project, assuming bus headways every 10 minutes, it would only add 6 additional buses during the PM peak-hours, which would not have a significant impact at any of the study intersections other than to reduce car traffic.

2. *Key assumptions and analytical procedures should be revised. These include:*

- a. *City Peoples' trip generation should be measured directly. The study estimated trip generation rather than measure it directly. This is important because the study takes credit for existing trips; if the study's estimation is higher than actual trips, it has under-reported the number of new trips generated by the project. My 45-minute observation on Wednesday, Sept. 7, between 4:50 p.m. and 5:35 p.m., showed 12 vehicle trips and 1 pedestrian trip, far less than the 78 peak hour trips reported in the traffic study. Since the store continues to operate and can be easily observed for vehicle and pedestrian trips, measuring its trips is a simple task and one that would produce a more accurate and appropriate value for existing trips.*

Response: ITE is the recognized standard for trip generation if that data is available. The original permitting of the store likely used ITE. Management practices or seasonal variations could affect short-term, direct measurements. ITE trip generation is an accepted methodology and should be considered valid. However, the Applicant reviewed traffic data available for other recent PCC developments. A site-specific traffic study performed for the expansion of an existing PCC located at 2749 California Avenue SW in West Seattle found a PM peak-hour trip generation of 18.30 trips per 1,000 SF. Therefore, the 5/17 updated TIA used this higher trip generation rate to ensure a conservative PM peak-hour analysis.

- b. *The determination of trip distribution should follow required city procedures. The study should follow Director's Rule 5-2009 to derive distributions for residential and commercial trips. This is required for concurrency tests, which the study undertakes. Instead, the study used local turning movements as a guide to distribution. This yields some seemingly odd results:*
- i. *Figures 4 & 5 do not differentiate residential trips from grocery store trips, which one would expect to differ. For instance, those figures show 60% of trips going to and from the north and east, with fully 35% of trips to/from Madison Park. That might be true of grocery trips, but seems a bit odd for residential trips.*
 - ii. *No trips through the neighborhoods immediately south of the site are shown. It's reasonable to expect a grocery to attract trips from nearby homes along Dewey, 30th and Republican, even with access solely from Madison.*
 - iii. *The distribution for the Dewey access scenario ignores the difficulty of using 32nd to cross Lake Washington Blvd. That is not realistic for anything but a handful of vehicles given the grade on 32nd up to Lake Washington Blvd., the difficult sight lines at the intersection, and the volume on the boulevard.*

Response: Director's Rule 5-2009 is entitled "Transportation Concurrency Project Review System". DR 5-2009 applies to LOS screen lines and City-wide concurrency standards for trips being distributed across the entire City. See DR 5-2009 pg. 2 and Attachments A and B. The DR 5-2009 methodology does not accurately represent local trips through intersections. Therefore, GTC used local turning movement counts to create a trip distribution through the local intersections. However, the Project is still within a 10% variance of what DR 5-2009 identifies as regional distributions. Trip distribution differs slightly each day based on a variety of factors. Additionally, the difference between modelled residential and commercial trip distributions is addressed by presenting the difference in inbound and outbound assignments for each use and then combining the scenarios to show a single assignment distribution. For example, to address the difficulty of taking a left onto Lake Washington Boulevard from 32nd Avenue, the 20% of trips that originally projected to make that movement were redirected to take the right onto Madison Street from 29th Avenue. Minor assignment changes were made in the updated TIA for local one-way variations. These variations did not change the overall conclusions of the analysis. It should also be noted that the V/C levels for concurrency that the DR 5-2009 methodology and distribution are used for are well within the capacity limits identified by the City, therefore any modification to the distribution, however large, would not change the conclusion that this project passes the City's concurrency test.

- c. *The assumption that PCC would capture trips already on Madison, called pass-by trips, at the same rate as regular supermarkets bears examination. Data for supermarket pass-by trips reflect stores that are generally much larger and that offer much broader arrays of products than do the specialty PCC markets. It is possible that PCC makes a less attractive pass-by candidate than a more conventional grocery store. In any case, data could be obtained from existing PCC stores to indicate actual pass-by rates. Also, the Dewey access scenarios complicate the notion of a pass-by trip (which the study acknowledges would be a diverted-link trip – one that uses multiple streets to enter and leave the site), suggesting that a lower rate would be more appropriate given the complexity of the access route.*

Response: This comment is speculative and is not supported by the ITE data. ITE's trip generation manual employs studies of supermarkets ranging from 15,000 to 70,000 square feet in size. The proposed development is a 25,000 SF grocery store, which falls within this range. Additionally, it should be noted that the relationship established by the individual data in the ITE handbook shows that the smaller the grocery the higher the pass-by rates. For example, the ITE manual reports pass-by rates of 50% for supermarkets of 30,000 SF or less. The pass-by rate decreases to 41% for supermarkets up to 35,000 SF, and the rate further decreases to 36% when supermarkets greater than 35,000 SF are included. Therefore, GTC's analysis is both consistent with the ITE and conservative for the E Madison Street access scenario.

3. *Corrections should be made to these erroneous items:*

- a. *Figure 6 and the level of service analysis should be corrected to include all trips at the site access. Figure 6 shows turning movement numbers that don't add up to the trip generation totals shown in Table 4. Specifically, figure 6 shows 167 net trips (after pass-by reductions) at the site access while Table 4 shows 184 new trips (after pass-by reductions). That discrepancy should be fixed, but the larger problem is that the driveway should be analyzed for all trips (270 trips) including the pass-by trips since they all turn in and out of the driveway.*
- b. *Similarly, Figure 8 should show all trips for the Dewey access, 29th, Republican and 32nd Ave., not just net new trips to the site. It is very misleading to show only net new trips on those streets when they would in fact carry the full complement of site trips due to the fact access from Dewey creates an entirely new way to reach the site.*

Response: The 5/17 TIA addresses these comments. All the trips were applied to the Project driveways as shown in the attached turning movement sheets. The 4/17 TIA Update figures were updated to reflect the analysis numbers.

As an added conservancy factor, no credit was taken at the Dewey Place E access driveway for the existing use and all the project trips were shown. All the diverted link trips are included as shown in the attached turning movement sheets. The 5/17 TIA Update analysis did not change the Original TIA conclusions.

- c. *Figure 8 should also correct its assignment of two-way trips to Arthur Place, which is one-way westbound.*

Response: In the 5/17 TIA Update, GTC corrected the trip distribution to account for the one-way westbound configuration of Arthur Place. Because Arthur Place carries relatively few daily trips, the adjusted trip assignment resulted in a de minimus shift of 16 trips in the Dewey Place E. access-only scenario and 2 trips in the dual access scenario during the PM peak-hour.

- d. *The intersection of 32nd/Lake Washington Blvd. should be included in the LOS analysis for the Dewey access scenarios since the project adds 55% of its traffic to that intersection.*

Response: The Original TIA trip distribution percentages were updated to reflect the assumption that it is unlikely that significant traffic volumes will make a left turn from the 32nd intersection onto Lake Washington Blvd. Instead, it is more probable that the trips will take a right onto E Madison Street from 29th Avenue E. The Project was scoped with the City to identify study intersections. The 32nd/Lake Washington Blvd intersection is approximately a quarter of a mile from the proposed Dewey Place E access location and approximately 0.23 miles from the E Madison Street access location. As such, it was not included in the original scoping process. However, it has been added to the list of study intersections and is analyzed in the 5/17 TIA Update.

- e. *Evaluation of the left-turn lane on Madison should be revisited and clarified as a mitigation measure. The evaluation should include all turning movements, not net new trips, and the effect of queues on Madison near the site's driveway. The study should also determine whether a turn lane will fit within the existing roadway, and what impacts to on-street parking might occur thus.*

Response: Assuming all commercial trips enter via a single driveway on E. Madison Street, the intersection may benefit from left-turn channelization based on the volume warrant. However, the City does not typically require left-turn lanes for driveways. The Applicant will work with the City during the MUP review process to determine the appropriate project channelization.

Overall Response:

Most of Mr. Tilghman's comments were addressed in the Original TIA. Some minor changes in local distribution or graphics were conducted as a sensitivity test and additional clarification was added in 5/17 Updated TIA. The additional analysis that GTC conducted in response to Mr. Tilghman's comments did not uncover any previously unaddressed Project traffic impact, and the conclusions in the 5/17 Updated TIA substantially confirm the analysis and conclusions of the original TIA.

Attachments

A – Truck Count at 450 NE 71st Street PCC Store



TRAFFIC DATA GATHERING

REDUCTION SHEET

LOCATION: PCC @ 450 NE 71st Street START OF COUNT: Wed 04/12/2017 11:00 AM
Seattle, WA END OF COUNT: Thu 04/13/2017 11:00 AM
COUNTED BY: VT/CN WEATHER: Rainy

FROM	TO	Trucks		Cars	
		IN	OUT	IN	OUT
Wed 04/12/2017 11:00 AM	11:15 AM	1	1	2	0
11:15 AM	11:30 AM	1	1	1	2
11:30 AM	11:45 AM	0	0	0	0
11:45 AM	12:00 PM	0	0	0	0
12:00 PM	12:15 PM	0	1	1	0
12:15 PM	12:30 PM	1	0	0	1
12:30 PM	12:45 PM	1	0	0	0
12:45 PM	01:00 PM	2	1	1	1
01:00 PM	01:15 PM	0	2	0	1
01:15 PM	01:30 PM	0	0	0	0
01:30 PM	01:45 PM	0	0	1	1
01:45 PM	02:00 PM	0	1	0	1
02:00 PM	02:15 PM	0	0	0	0
02:15 PM	02:30 PM	0	0	0	0
02:30 PM	02:45 PM	0	0	0	0
02:45 PM	03:00 PM	0	0	0	0
03:00 PM	03:15 PM	0	0	0	0
03:15 PM	03:30 PM	0	0	0	0
03:30 PM	03:45 PM	0	0	0	0
03:45 PM	04:00 PM	0	0	0	0
04:00 PM	04:15 PM	0	0	0	0
04:15 PM	04:30 PM	0	0	0	0
04:30 PM	04:45 PM	0	0	0	0
04:45 PM	05:00 PM	0	0	0	0
05:00 PM	05:15 PM	0	0	0	0
05:15 PM	05:30 PM	0	0	0	0
05:30 PM	05:45 PM	0	0	0	0
05:45 PM	06:00 PM	0	0	0	0
06:00 PM	06:15 PM	0	0	0	0
06:15 PM	06:30 PM	0	0	0	0
06:30 PM	06:45 PM	0	0	0	0
06:45 PM	07:00 PM	0	0	0	0

FROM	TO	Trucks		Cars	
		IN	OUT	IN	OUT
07:00 PM	07:15 PM	1	0	0	0
07:15 PM	07:30 PM	0	0	0	0
07:30 PM	07:45 PM	0	0	0	0
07:45 PM	08:00 PM	0	0	0	0
08:00 PM	08:15 PM	1	1	0	0
08:15 PM	08:30 PM	0	0	0	0
08:30 PM	08:45 PM	0	0	0	0
08:45 PM	09:00 PM	0	1	0	0
09:00 PM	09:15 PM	0	0	0	0
09:15 PM	09:30 PM	0	0	0	0
09:30 PM	09:45 PM	0	0	0	0
09:45 PM	10:00 PM	0	0	0	0
10:00 PM	10:15 PM	0	0	0	0
10:15 PM	10:30 PM	0	0	0	0
10:30 PM	10:45 PM	0	0	0	0
10:45 PM	11:00 PM	0	0	0	0
11:00 PM	11:15 PM	0	0	0	0
11:15 PM	11:30 PM	0	0	0	0
11:30 PM	11:45 PM	0	0	0	0
11:45 PM	12:00 AM	0	0	0	0
Thu 04/13/2017 12:00 AM	12:15 AM	0	0	0	0
12:15 AM	12:30 AM	0	0	0	0
12:30 AM	12:45 AM	0	0	0	0
12:45 AM	01:00 AM	0	0	0	0
01:00 AM	01:15 AM	0	0	0	0
01:15 AM	01:30 AM	0	0	0	0
01:30 AM	01:45 AM	0	0	0	0
01:45 AM	02:00 AM	0	0	0	0
02:00 AM	02:15 AM	0	0	0	0
02:15 AM	02:30 AM	0	0	0	0
02:30 AM	02:45 AM	0	0	0	0
02:45 AM	03:00 AM	0	0	0	0
03:00 AM	03:15 AM	0	0	0	0
03:15 AM	03:30 AM	0	0	0	0
03:30 AM	03:45 AM	0	0	0	0
03:45 AM	04:00 AM	0	0	0	0
04:00 AM	04:15 AM	0	0	0	0
04:15 AM	04:30 AM	0	0	0	0
04:30 AM	04:45 AM	0	0	0	0
04:45 AM	05:00 AM	0	0	0	0

FROM	TO	Trucks		Cars	
		IN	OUT	IN	OUT
05:00 AM	05:15 AM	0	0	0	0
05:15 AM	05:30 AM	0	0	0	0
05:30 AM	05:45 AM	0	0	0	0
05:45 AM	06:00 AM	1	0	0	0
06:00 AM	06:15 AM	0	0	0	0
06:15 AM	06:30 AM	0	0	0	0
06:30 AM	06:45 AM	0	0	0	0
06:45 AM	07:00 AM	2	0	0	0
07:00 AM	07:15 AM	1	0	0	0
07:15 AM	07:30 AM	0	3	0	0
07:30 AM	07:45 AM	0	0	0	0
07:45 AM	08:00 AM	0	0	0	1
08:00 AM	08:15 AM	0	0	0	0
08:15 AM	08:30 AM	1	0	0	0
08:30 AM	08:45 AM	1	0	0	0
08:45 AM	09:00 AM	2	0	0	0
09:00 AM	09:15 AM	0	1	0	0
09:15 AM	09:30 AM	2	2	0	0
09:30 AM	09:45 AM	0	1	0	0
09:45 AM	10:00 AM	0	1	0	0
10:00 AM	10:15 AM	0	1	0	0
10:15 AM	10:30 AM	1	0	0	0
10:30 AM	10:45 AM	0	1	0	0
10:45 AM	11:00 AM	1	0	2	2