Illinois Department of Transportation
Division of Highways / District 6
126 East Ash Street / Springfield, Illinois 62704-4792

August 3, 2004

Mr. Stephen Schroll
Crawford, Murphy and Tilly, Inc.
2750 West Washington Street
Springfield, IL 62702

RE: Proposed Wal-Mart Super Store #1602-02
West Wabash Avenue
Springfield, IL

Dear Mr. Schroll:

The Geometrics Unit has reviewed the traffic impact study for the proposed location submitted July 9, 2004. Approval cannot be granted until the following comments are addressed:

Synchro Runs
For the existing runs the following should be changed:

- Archer Elevator Road: Actuated/uncoordinated
  EBL is pm+pt
  WBR is pm+ov
  SBR is pm
  EB & WB should have minimum recall
- Mercantile: acutated/uncoordinated
  EB and WB lefts are pm+pt
  NB and SB are split phase
  There is no right turn for SB
  EB & WB should have minimum recall
- Koke Mill: actuated/coordinated
  All lefts are pm+pt
  The right turn lanes for NB and WB should be pm+ov

For the proposed runs the following should be changed:

- For all the Wabash intersections, the coordinated phases should be EB and WB.
- There should be no recall to any side streets along this corridor.
- All dedicated left turns should be pm + pt. All dedicated rights should be pm + ov.
- For any intersection that is actuated/coordinated, the pedestrian timings should be taken out in Synchro. If peds are included, Synchro will make the green times longer than they need to be.

- The minimum split times for left turn phases should be 11 seconds and for through phases, 15 seconds.
- The yellow time shall be 3 seconds. The all red time shall be 2 seconds.

General

- Interstate 72 is a freeway. Please change the description in the write up.
- The existing configuration of the interchange ramp terminals is as follows: separate right and left turn lanes with signals.
- Ash Grove should be analyzed as a unsignalized intersection for existing conditions. Traffic numbers shall be assigned to the intersection on Figures 3A, 4, 5A, 8A, and 9A.
- Pleasant Run intersection should be analyzed with traffic for all scenarios.
- The existing speed limit for Wabash Avenue is 55 mph immediately east of the Wells Fargo Entrance going westbound until you get to Curran. The speed limit for the rest of the corridor is 45 mph.
- Archer Elevator Drive is only a two lane roadway at the intersection of Wabash. The south bound right and left turn is from a shared lane.
- Existing traffic control items should be listed as follows: Signals are located at both interchange ramp terminals along Wabash. Signals are located at Ash Grove Drive. Pleasant Run is controlled by a stop sign.
- The AM Peak hour traffic should be analyzed for the entire corridor.
- Figures 3A, 4, 5A, 6A, 7A, 8A, 9A, 10A, and 11 should all show existing signals at the interchange ramps and Ash Grove Road.
- In the base year of 2006 signals will be operational at the intersection of Wabash at Meadowbrook.
- On Figure 4 recommended signals at the Wells Fargo entrance will not be considered. This is due to the fact that an arterial roadway will be located too close to the entrance to allow for signals to be placed.
- On Figure 6B the signal at Meadowbrook will be an existing signal by 2024.
- Does Figure 8A represent the site base traffic in 2006 or 2024?
- The trip generation used for the Wal-Mart part of the site is a Shopping Center. This does not make any sense. Please review and justify why this was used.
- The District's experience is that the average generation rates do not represent the Super Wal-Mart sites. Do you have any trip generation values from existing sites to justify your assumptions?
- The trip generation for the Gas Station took into account a convenience market and a car wash. Is this truly representative of the gas stations which located adjacent to Super Wal-Marts?
- The internal capture rate should only be a deduction for the out lots for the entire site.
- How was the pass by trips distributed to the site? Were they only taken from Wabash? A diagram with the pass by trip distribution would be helpful in the review of the traffic.
- A diagram with the percentage of inbound and outbound traffic at the site's entrances would be helpful in the review.
- The distribution of the trips seems to be low from Archer Elevator Road and Meadowbrook. These two roadways access highly residential areas which would be attracted to this site. Please look at the demographics of the surrounding areas of the site and reassess the distribution of the trips.

- An appendix shall be attached to the study to include the capacity calculations for all the intersections. The capacity runs shall be calculated using HCS 2000. Synchro 6.0 can be used to calculate the timing of the intersections. If any Intersection Design Studies are needed, HCS 2000 should be used for final submittals.
- Recommendations for a signal at Happy Landing Drive and Wabash have been considered. However, due to the slow development of the area a time frame has not been determined. This location will have to be monitored. An assumption that a signal will be operational in 2024 is adequate. 2006 for a signal may or may not be the case. Please look at both non-signalized and signalized intersection capacity for this location.
- The District's threshold for dual left turn lanes is 300 vph. A dual left may better serve Archer Elevator Road at Wabash.
- Archer Elevator Road will have to be expanded at the intersection of Wabash. At a minimum an exclusive left and right turn lane shall be provided southbound. Two northbound lanes should be considered for Archer Elevator Road along the site.
- Meadowbrook Road should be expanded to include a left turn lane and a through/right turn lane. The median along Meadowbrook Road will most likely have to be reconstructed if additional storage is needed for the southbound left turn lane.
- The recommendations for expansion of Wabash seem to be minimal at best. This should be revisited. The queue lengths for the through movements should be taken into account when determining the storage lengths for the auxiliary lanes. If the intersection spacing does not allow for the through lane queues, additional through lanes should be considered.

Please incorporate these comments into the traffic impact study report or justify why they cannot be made. Please resubmit the report in a timely manner for final approval.

If you have any questions, please contact Lori Williams at 785-5333.

Sincerely,

Christine M. Reed, P.E.
District Engineer

By: William E. Martens

William E. Martens, P.E.
Program Development Engineer

FWH:LBW:mab

cc: Tim Sheehan (City of Springfield)
Roger Kanerva
John Myers
Joe Albers (Albers Engineering)
Kim Tribbet