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November 11, 2015

Keith Bredehoeft, PE  
Director of Public Works  
3535 Somerset  
Prairie Village, KS 66208

**Re: Traffic Impact Study Review  
Meadowbrook Park  
Prairie Village, Kansas**

Dear Mr. Bredehoeft:

In response to your request, we have reviewed plans as well as the traffic impact study prepared for the Meadowbrook Park redevelopment on the site of the former Meadowbrook Golf and Country Club. The plans were dated November 5, 2015 while the most recent traffic impact study was dated November 6, 2015.

#### **Traffic Impact Study**

In general, the surrounding street system is adequate to absorb the traffic projected to be generated by the proposed development. Issues with turn lanes, driveway access, and signal operations are identified below.

##### 95th Street and Nall Avenue

This intersection currently operates below desired levels of service during the P.M. peak hour. The traffic consultant recommends changing the left-turn phasing to protected/permitted on all approaches. This change has the effect of offsetting the impact of additional traffic to some degree. The City of Overland Park, co-owner of the traffic signals, has agreed to this change in the traffic signal operation.

Queuing studies show inadequate left-turn storage for eastbound and northbound traffic. One means of extending these turn lanes would be to remove the bulbed portions of the raised median on these approaches. Such a change would need to be worked out with the City of Overland Park.

##### 94th Terrace and Nall Avenue

A second westbound lane on 94th Terrace at Nall Avenue is recommended to lessen delay to those turning right. Westbound drivers turning left will experience long delays during peak times but have the option to use the signalized intersection at 95th Street and Rosewood to access the major street system.

##### 92nd Terrace/Main Entrance and Nall Avenue

There are two issues at this location. Like 94th Terrace, westbound drivers desiring to turn left will experience long delays during peak times. A second westbound lane is recommended. We concur that a second lane would be appropriate but would recommend that the additional lane be for right turns instead of left turns. Inasmuch as westbound through movements will be very low, the gap in traffic needed to cross is comparable to the gap needed to turn left, and the likelihood that a left-turn lane

would never be constructed on 92nd Terrace, the recommended configuration for the two westbound lanes would be one shared through/left-turn lane and one right-turn lane.

The second issue is whether or not to construct left-turn lanes on Nall Avenue at this intersection. While level-of-service analyses suggest that Nall Avenue could operate acceptably without them, that is not the only consideration in making such a determination. It is typical on arterial streets to provide separate left-turn lanes at signalized intersections, adjacent to commercial land uses, and at other locations where turning activity could be significant or even modest turning activity could be disruptive to the flow of traffic. Inasmuch as this is identified as the main entrance to the development site, we recommend that left-turn lanes be considered.

With a large park, one should not necessarily base decisions solely on weekday peak hour conditions. No doubt there will be times when park usage is higher than anticipated on a weekday. Left-turn lanes on Nall Avenue would be helpful to maintaining orderly traffic flow during times of peak activity at the park.

#### Parking Lot Driveway and Nall Avenue

We concur with the traffic consultant that this driveway should be limited to right turns in and out due to its proximity to the signalized intersection at 91st Street/Somerset Drive and the queuing that occurs on Nall Avenue. The question is how best to achieve this usage. Raised median on Nall Avenue would be the only truly effective means of doing so and should be investigated.

Further, the existing driveway is extremely steep with virtually no level spot adjacent to Nall Avenue. It is recommended that this driveway be reconstructed to provide a suitable grade for entering and exiting traffic.

#### 91st Street/Somerset Drive and Nall Avenue

This intersection is anticipated to operate adequately with the addition of development traffic. Left-turn queues are projected to exceed the storage capacity for several movements. On the westbound approach in Prairie Village, restriping between Nall Avenue and the park driveway would be appropriate.

#### 95th Street and Rosewood

The traffic impact study assigns more traffic to this intersection than to the main entrance on Nall Avenue. The result will be more traffic flow and longer queues on Rosewood at 95th Street. Existing driveways on Rosewood immediately north of 95th Street are extremely close to the signalized intersection. Consideration should be given to either widening Rosewood for the addition of raised median or closing these driveways.

#### 94th Terrace and Rosewood

The site plans indicate that a site access drive is to intersect 94th Terrace and Rosewood within a horizontal curve. Sight lines are measured to be adequate, and the intersection is projected to operate at an acceptable level of service during peak hours. However, the intersection will be somewhat awkward in the sense that the major traffic volume movements will be to and from the site via Rosewood, requiring the major movements to turn. Southbound traffic for the major movement will be required to stop. This situation becomes more pronounced as this will be one of only two access points to the entire residential portion of the development. Consideration should be given to realigning the

intersection to create a continuous north/south street with stop sign control for eastbound 94th Terrace.

#### Internal Streets

The traffic impact study did not include a review of proposed streets and intersections within the development site. A rigorous review by a trained traffic specialist is appropriate to consider matters such as lane configurations, intersection control, intersection turning radii, sight lines, parking areas for the park, street parking restrictions, pedestrian crossings, etc.

#### **Proposed Parking Lot at Roe Avenue**

The previous plan set dated October 2 showed a public street connection to Roe Avenue near 91st Street. The site plans have since been modified, including changes to access at Roe Avenue as well as new park features. The plan set now shows an oval-shaped parking lot immediately west of Roe Avenue with a connection to Roe Avenue across from 91st Street. The formerly proposed street connection has been deleted, but emergency access roads are shown to connect the parking lot with the adjacent residential development. The most recent version of the traffic impact study assumes no public street access to Roe Avenue but does not address the parking lot. One plan sheet depicts a shelter, play area and sculpture garden in the park area previously represented as Open Lawn.

Removal of the public street connection dramatically alters traffic service that would have been afforded new residents in the redevelopment area as well as Prairie Village residents desiring to access the open areas of the park. A property of this size that is bordered by major streets would typically have access to all of them to lessen any concentration of traffic and lessen overall travel distances. An earlier version of the traffic impact study estimated that a public street connection to Roe Avenue may serve 15 to 20 percent of the site traffic. This connection would be the most convenient for residents on the east side of the property and is likely the desired route to and from places such as Corinth and Prairie Village shopping centers, the Country Club Plaza and other destinations in midtown Kansas City. Roe Avenue is an important street for Prairie Village residents as it connects with I-435 to the south and Shawnee Mission Parkway and I-35 to the north. The earlier version of the traffic impact study showed that Roe Avenue could easily absorb the development traffic and maintain high levels of service.

Absent the connection to Roe Avenue, those destined to or returning from the east and northeast of the site would have to travel considerable extra distances every day; some traveling an extra mile or more to enter and exit the site via 95th Street or Nall Avenue. Not only is that a significant amount of extra travel on every trip that would otherwise have used a public street connection to Roe Avenue, it is indirect travel. Some residents and park users will have to travel nearly one-half-mile west in order to go east once out of or entering the site.

The following are our review comments on the parking lot plan.

- The proposed parking lot will be awkward for parking and unparking based on the tight oval configuration.
- The parking lot needs to be sized adequately to avoid overflow parking along 91st Street. It would be desirable to design the lot for future expansion should it become necessary.
- The design of the parking lot and emergency access road must accommodate all emergency vehicles, including large fire trucks.

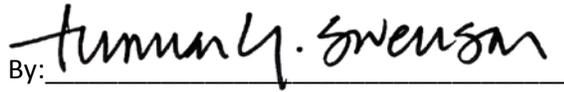


- While aligning the parking lot driveway perpendicular to Roe Avenue is desirable, it's not well aligned with 91st Street. The extension of the centerline of the new driveway should hit the centerline of 91st Street at the east edge of Roe Avenue.
- Adequate sight lines along Roe Avenue need to be confirmed from the new connection. Horizontal curves, mature trees, cars parked in driveways and other features can make that problematic. A sight line easement should be secured if appropriate.

We will be available to review this matter with you at your convenience.

Very truly yours,

**TranSystems Corporation**

By: 

Thomas G. Swenson, PE, PTOE

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