May 3, 2022

VIA IZIS

Chairman Anthony Hood
D.C. Zoning Commission
441 4th Street, N.W., Suite 200S
Washington, D.C. 20001

Cc: (via email) Jeffrey Utz; David Lewis; ANC 4C

Re: Expert Witness Designation
ZC Case 21-18/ Dance Loft Ventures LLC
Hearing Date – May 5, 2022

Chairman Hood:

On behalf of our clients, Friends of 14th Street (FOFS), we request that Reju V. Radhakrishnan be recognized by the Zoning Commission as an expert in transportation studies. We ask that this be handled as a preliminary matter at the hearing on May 5th. Mr. Radhakrishnan's resume is attached.

Thank you for your consideration.

Sincerely,

/s/ Edward L. Donohue for Friends of 14th Street

Enclosure

REJU VIJAYA RADHAKRISHNAN

Senior Transportation Engineer, MCV Associates, Inc.

Education

- MS/2007/Transportation Engineering
- MS/2005/Coastal Engineering
- BS/2002/Civil Engineering

Registration/Certification

- Professional Engineer: VA, MD, TN, KY

Summary

Mr. Radhakrishnan has over fourteen years of experience in the areas of transportation engineering and planning. He has conducted numerous traffic engineering and operations studies including traffic analysis, traffic signal design, impact studies and data collection. He has reviewed numerous traffic impact studies for various clients in Virginia, Maryland, and Washington DC.

Relevant Experience

Traffic Analysis for Crabbs Branch Way Extension, Montgomery County, Maryland. Project Engineer for this study. The traffic data was analyzed to develop peak hour volumes, peak hour factors, average daily traffic volumes, etc. He analyzed the existing conditions and estimated capacity and levels of service. Traffic volumes at study intersections were estimated based on rerouted trips for the planned Crabbs Branch Way Extension. The study intersections were then analyzed, and capacity and level of service were estimated. The ADT on the proposed extension roadway was also estimated.

Traffic Impact Study for the Rajdhani Mandir (Temple) in Fairfax County, Virginia. Project Engineer for this study. He analyzed the existing conditions and estimated capacity and levels of service. He developed future background traffic using ITE Trip Generation Report and estimated capacity and levels of service. He estimated site trips, assigned trips to the roadway network and computed capacity and levels of service for the future conditions with the site developed. He assisted in developing mitigation measures for the failing intersection. The analysis was performed using Synchro model.

Traffic Impact Study for the New Baltimore Service District in Fauquier County, Virginia Project Engineer for this study. He developed the Synchro Model for the study area, including 14 intersections, for existing conditions and for the year 2030. He prepared the inputs to the model such as the peak hour factors, signal timing and phasing, heavy vehicle percentages, pedestrian timing, etc. The model was setup for the AM and PM peak hour conditions. The model was run to develop capacity and levels of service at each of the study intersections. He assisted in developing mitigation measures for the intersections that were projected to operate at LOS E or worse. The Synchro analysis was supported by SimTaffic simulation for the network.

Traffic Impact Study for the Heritage Baptist Church in Loudoun County, Virginia. Project Engineer for this study He analyzed the existing conditions and estimated capacity and levels of service. He developed future background traffic using ITE Trip Generation Report and estimated capacity and levels of service. He estimated site trips, assigned trips to the roadway network and computed capacity and levels of service for the future conditions with the site developed. The analysis was performed using Synchro model.

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Traffic Impact Study for the Loudoun County Government Support Center, Loudoun, Virginia Project Engineer This project consisted of conducting a traffic study following Section 527 Guidelines and Loudoun County requirements. He developed the Synchro Model for the study area, including 12 intersections, for existing conditions, Phase I, Phase II and for the design year 2030. He prepared the inputs to the model such as the peak hour factors, signal timing and phasing, heavy vehicle percentages, etc. The model

was setup for the AM and PM peak hour conditions. The model was run to develop capacity and levels of service at each of the study intersections. He assisted in developing mitigation measures for the intersections that were projected to operate at LOS E or worse.

Fairfax County TDM Study: MCV collected data pertaining to vehicle and pedestrians entering and exiting building sites. Manual counts included driveway counts (vehicle occupancy), pedestrian walk-ons (to neighboring building/bus-stop), Pedestrian (drop-off from vehicle). Portable machine counters were used to collect data for a period of 12 hrs on site driveways.

Dulles Toll Road Traffic and Revenue Study: Project Engineer for this study. Developed Transportation Demand models to project traffic and revenue for existing toll road and future roadway improvements. He analyzed data from Origin-Destination studies, travel time and delay data on toll road and alternate routes to develop the models

Traffic Impact Study for the Dulles Car Dealership in Leesburg, Virginia. Project Engineer for this study. He analyzed the existing conditions & estimated capacity and levels of service. He developed future background traffic using ITE Trip Generation Report and estimated capacity and levels of service. He estimated site trips, assigned trips to the roadway network and computed capacity and levels of service for the future conditions with the site developed. The analysis was performed using Synchro model.

Traffic Impact Study for the Bus Parking Facility at Woodson High School in Fairfax, Virginia. Project Engineer for this study. He analyzed the existing conditions & estimated capacity and levels of service. He developed future background traffic using ITE Trip Generation Report and estimated capacity and levels of service. He estimated site trips, assigned trips to the roadway network and computed capacity and levels of service for the future conditions with the site developed. The analysis was performed using Synchro model.

Transportation Engineering and Consulting Services for Fauquier County, Virginia Project Engineer. He provided technical support to the County for seven years. During this period he participated in over 35 projects. The range of projects covered almost every type of study that could potentially be required in the current RFP. Assistance was provided in developing comprehensive transportation plans for the Bealeton, Opal, Remington and New Baltimore Service Districts. TMODEL2 system and the Synchro Model were used to evaluate transportation plans. Impact fee analysis was also conducted for the Bealeton, Opal and Remington Service Districts by developing road improvement costs and allocating them to future developments. Land development application review was conducted for several large major applications. This included the Cross Creek, Freedom Plaza, Colonial Crossing, Catlett Farm, etc. Scoping meetings were held with the County staff, VDOT staff and the Applicant including the Section 527 scopings. Written reports were prepared along with an interactive dialogue with the staff. In some cases, additional analysis was conducted to support recommendations. As part of these reviews, he participated in Planning Commission hearings as well as presentation to the Board of Supervisors. He also conducted several traffic impact studies for the School Board for high school and elementary school. Traffic signal warrant studies were also conducted that were reviewed and approved by VDOT. He also evaluated roadway plans including roundabouts

for several projects including Cross Creek, Cheatham Farm, Opal Subdivision and Glass-Mckinney, US 17 and US 29 Corridors. Conducted the Bealeton Bypass Alignment and traffic study.

Signal Warrant Analysis for Route 221 (Forest Road) and Route 874 (Wayne Drive) Bedford County in Lynchburg, Virginia. Project Engineer for this study. He analyzed the traffic data to determine if the intersection of Route 221 & Wayne Drive met any one or more of the traffic signal warrants in the Manual on Uniform Traffic Control Devices, 2009 Edition (2009 MUTCD). Volume warrants 1, 2 and 3 were the main focus of this study as warrants 4 through 9 were either not applicable or did not meet the threshold for consideration. The analysis was performed using HCS model.

Signal Optimization US 460 Bus. (Timberlake Road) from Laxton Road to Grove Avenue in Lynchburg, Virginia. Project Engineer for this study. He analyzed eleven signal controlled intersections along US 460 Bus. corridor in Lynchburg city for the congestion periods of AM and PM peak hour. Traffic counts were collected, traffic conditions were observed, and intersection geometry was surveyed. He prepared the inputs to the model such as the peak hour factors, signal timing and phasing, heavy vehicle percentages, pedestrian timing, etc. Synchro signal optimization program was used to determine the optimal timing and phasing signal operation plan. The VDOT Traffic Operations Analysis Tool Guidebook Version 1.1 was used as a guide for the operation analysis. Traffic VDOT Memo TE-306.1 was used for guidance on the determination of yellow change and red clearance intervals. The model was validated and calibrated to match current traffic conditions. Optimum timing plans, cycle lengths, split times, offsets and phase sequence to minimize stops and delays were generated. Five scenario alternatives were evaluated and compared based on network measures of effectiveness (MOE) such as control delay, average speed, stops, performance index and overall safety benefit. The Synchro analysis was supported by SimTaffic simulation for the network.

Signal Optimization on Franklin Road, Electric Road and Brambleton Avenue in Roanoke, Virginia. Project Engineer for this study. He conducted quality checks and verified the travel time and queue data for accuracy as part of the optimization of the three corridors. The draft reports were also reviewed as part of quality check.

Speed Limit Study for US 58 (Wilderness Road) from Tennessee State Line to MP 32 in Lee County, Virginia. Project Engineer for this study. He analyzed traffic data along 32 miles of the study corridor to determine if and where the speed limits should be increased from 55 mph to 60 mph along the six segments of the corridor. Vehicle classification and speed data were collected using non intrusive radar units. As part of the safety study an inventory was done of the curve warning signs and speed limit signs, quality, condition and type of guardrails, roadway delineators and pavement condition etc. The horizontal curves located along the study corridor were investigated, one at posted speed limit of 55 MPH and at the proposed speed limit of 60 MPH using a ball bank indicator to determine if curve warning signs were warranted. Crash data was also analyzed. Roadside improvements were recommended as part of

routine maintenance to improve corridor safety and curve warning signs proposed prior to the speed upgrade.

Speed Study – Route 220A for US 58 (MP 9.37 – 10.00) in Botetourt County, Virginia. Project Engineer for this study. The purpose of this speed study was to create a step down speed zone of 45 MPH prior to the 35 MPH speed zone that exists approaching the Route 11(Lee Highway) intersection. This transitional speed zone was expected to improve safety on the high speed, high volume roadway. Vehicle classification and speed data were collected using non intrusive radar units. As part of the safety study, crash analysis was performed and the general condition and adequacy of warning signs and speed limit signs, quality, condition and type of guardrails, roadway delineators and pavement condition etc were noted. Roadside improvements were recommended as part of routine maintenance to improve corridor safety and also new speed signs were proposed as part of the new step down speed zone.

Signal Replacement Study (Alt 58/US 58 at Rte 649) in Jonesville, Virginia. Project Engineer for this study. The purpose of this speed was to evaluate the need for the existing traffic signal; at this intersection. He used field observations and warrant analysis to study the intersection and determine the continuation of a traffic light. Factors studied included existing geometric configurations, traffic control devices, adjacent land use, pedestrian and bicycle facilities, pavement conditions and markings etc. Field observations were made during the AM and PM peak hour. Crash analysis was done and each of the nine warrants were analyzed to see if any one or more of the traffic signal warrants in the Manual on Uniform Traffic Control Devices, 2009 Edition (2009 MUTCD) was satisfied for the continuation of the traffic signal. The intersection yellow and all-red clearance times were checked to ensure compliance with VDOT Memo-TE306.1. The analysis was performed using HCS model.

Signal Replacement Study (US 58 Alt at Route 706) in Pennington Gap, Virginia. Project Engineer for this study. The purpose of this speed was to evaluate the need for the existing traffic signal; at this intersection. He used field observations and warrant analysis to study the intersection and determine the continuation of a traffic light. Factors studied included existing geometric configurations, traffic control devices, adjacent land use, pedestrian and bicycle facilities, pavement conditions and markings etc. Field observations were made during the AM and PM peak hour. The available sight distance to the side street (for a two-way stop control) was measured in the field and compared to the stopping sight distance for the mainline approach speed as part of the analysis. Operational analysis for the existing condition was performed using Synchro and SimTraffic traffic simulation software. The delay results were obtained from an average of 10 simulation runs. Crash analysis was done and each of the nine warrants were analyzed to see if any one or more of the traffic signal warrants in the Manual on Uniform Traffic Control Devices, 2009 Edition (2009 MUTCD) was satisfied for the continuation of the traffic signal. The intersection yellow and all-red clearance times were checked to ensure compliance with VDOT Memo-TE306.1. The analysis was performed using HCS model.

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Signal Optimization US 11 (Lee Highway) from Industrial Park Road to West Highlands Blvd. in Bristol, Virginia. Project Engineer for this study. He analyzed five signal controlled intersections along US 11 corridor in Bristol city for the congestion periods of AM, Midday and PM peak hour. Traffic counts were collected, traffic conditions were observed, and intersection geometry was surveyed. He prepared the inputs to the model such as the peak hour factors, signal timing and phasing, heavy vehicle percentages, pedestrian timing, etc. Synchro signal optimization program was used to determine the optimal timing and phasing signal operation plan. The VDOT Traffic Operations Analysis Tool Guidebook Version 1.1 was used as a guide for the operation analysis. Traffic VDOT Memo TE-306.1 was used for guidance on the determination of yellow change and red clearance intervals. The model was validated and calibrated to match current traffic conditions. Optimum timing plans, cycle lengths, split times, offsets and phase sequence to minimize stops and delays were generated. Five scenario alternatives were evaluated and compared based on network measures of effectiveness (MOE) such as control delay, average speed, stops, performance index and overall safety benefit

Signal Optimization US 23 (Main Street) from US 58-Hilton Road Road to Rte 614-Yuma Road in Weber City, Virginia. Project Engineer for this study. He analyzed four signal controlled intersections along US 23 corridor in Weber City for the congestion periods of AM, Midday and PM peak hour. Traffic counts were collected, traffic conditions were observed, and intersection geometry was surveyed. He prepared the inputs to the model such as the peak hour factors, signal timing and phasing, heavy vehicle percentages, pedestrian timing, etc. Synchro signal optimization program was used to determine the optimal timing and phasing signal operation plan. The VDOT Traffic Operations Analysis Tool Guidebook Version 1.1 was used as a guide for the operation analysis. Traffic VDOT Memo TE-306.1 was used for guidance on the determination of yellow change and red clearance intervals. The model was validated and calibrated to match current traffic conditions. Optimum timing plans, cycle lengths, split times, offsets and phase sequence to minimize stops and delays were generated. Five scenario alternatives were evaluated and compared based on network measures of effectiveness (MOE) such as control delay, average speed, stops, performance index and overall safety benefit