

TOWNSHIP OF LOWER MAKEFIELD
ZONING HEARING BOARD
MINUTES – JUNE 2, 2009

The regular meeting of the Zoning Hearing Board of the Township of Lower Makefield was held in the Municipal Building on June 2, 2009. Vice Chairman Bamburak called the meeting to order at 7:30 p.m.

Those present:

Zoning Hearing Board: David Malinowski, Chairman (joined meeting in progress)
 Paul Bamburak, Vice Chairman
 Jerry Gruen, Member
 Anthony Zamparelli, Member
 Paul Kim, Alternate Member

Others: David Truelove, Township Solicitor
 James Majewski, Township Engineer
 Allen Toadvine, Zoning Hearing Board Solicitor
 Matt Maloney, Supervisor Liaison

Absent: Gregory J. Smith, Zoning Hearing Board Secretary

APPEAL #08-1481(A) – THE FRANKFORD HOSPITAL OF CITY OF PHILADELPHIA

Mr. John VanLuvanee, attorney for the Applicant, was present along with Mr. Ronald Smolow, attorney for RAFR, and Mr. John Koopman, attorney for Newtown Township.

Mr. Bamburak stated at the end of the last meeting, Mr. VanLuvanee was still in cross examination of Mr. Angelastro.

Mr. Toadvine stated at the end of the last meeting there was discussion about a partial transcript which had tentatively been marked as Exhibit A-21. Mr. Toadvine stated he has spoken to Mr. Truelove and the Court Reporter and it would be appropriate to mark the partial transcript as an Exhibit since the questioning referenced pages and line numbers which will now change in the official transcript. This was acceptable to everyone. Mr. Truelove stated now that they have the official transcript they could mark that as Exhibit A-21A and have some way to coordinate the pages. Mr. VanLuvanee agreed to do an Exhibit identifying the pages from A-21 and the corresponding page and line item from the official transcript. The partial transcript was from March 17, 2009 and started on Page 40 and ended on Page 93. It was agreed to mark this as Exhibit A-21.

Mr. VanLuvanee stated at the last Hearing Mr. Angelastro was asked to provide copies of worksheets that his firm's personnel had prepared during the course of their gathering of the data, some of which was utilized in the power point presentation that he testified from. Mr. VanLuvanee marked Exhibit A-22 and Mr. Angelastro confirmed that these are copies of the worksheets that he provided. Mr. VanLuvanee stated this comprises twenty-seven pages, and he assumes that none of them were Mr. Angelastro's worksheets. Mr. Angelastro agreed and stated he obtained them from the personnel who were sent out to gather data. Mr. VanLuvanee asked if he had the opportunity to review these worksheets, and Mr. Angelastro stated he did.

Mr. VanLuvanee noted the first page and he asked what this sheet means, and Mr. Angelastro stated this relates to the traffic signal timing and it has nothing to do with the queue analysis.

Mr. VanLuvanee noted the second page in the upper right hand corner where it stated the job is Newtown-Yardley, PM, 9/10 which he assumes is the date, and Mr. Angelastro agreed. Mr. VanLuvanee asked if he can tell from looking at the worksheet what the columns that indicate Lanes – left, center, and right relate to; and Mr. Angelastro stated these are the lanes on Newtown-Yardley Road/Newtown By-Pass. Mr. VanLuvanee asked how he knows from where the distances were estimated, and Mr. Angelastro stated they were adjacent to the intersection. Mr. VanLuvanee asked if they are measuring them for eastbound or westbound traffic, and Mr. Angelastro stated it would be east and west on different streets. Mr. VanLuvanee asked how they would know that the second page of the Exhibit is eastbound or westbound, and Mr. Angelastro stated it would have to be eastbound because they have "left," "center," and the "right" turn lane.

Mr. VanLuvanee asked when they change from eastbound to westbound, and Mr. Angelastro stated the sheets provided are out of order and he could put them in the correct order at a later time and re-submit them.

Mr. VanLuvanee noted the fifth page of the Exhibit, focusing on the Center Lane at 5:07 and rather than a number it indicates "inter," and he asked Mr. Angelastro what this means. Mr. Angelastro stated it means that the queue extended from the intersection of Stony Hill Road to Lindenhurst Road which is approximately 1,600 feet.

Mr. VanLuvanee stated according to this sheet at 5:05, the queue was 350 feet back from the light at Stony Hill on the By-Pass, and Mr. Angelastro agreed. Mr. VanLuvanee stated at 5:07 the queue extended all the way back to Lindenhurst, and at 5:09 it was only 450 feet so that it went from 350 to over 1600 and back to 450, and Mr. Angelastro agreed. Mr. VanLuvanee asked if Mr. Angelastro could explain how this might have happened in that two minute span, and Mr. Angelastro stated he would have to give it some thought.

Mr. VanLuvanee stated looking at the right lane on that page at 5:05 the queue was 350', at 5:07 it extended back to Lindenhurst, and again at 5:09 it was only 450'; and Mr. Angelastro agreed. Mr. VanLuvanee asked if he could explain why this occurred, and Mr. Angelastro stated he is assuming it was the arrival of vehicles queuing up at those times. Mr. VanLuvanee stated there are several other "inter" notations between 5:00 and 6:00, and Mr. Angelastro agreed.

Mr. VanLuvanee noted the numbers on this page and the following page, the highest queue is 800'. He stated Mr. Angelastro indicated that the back-up to Lindenhurst is over 1,600', and Mr. Angelastro agreed. Mr. VanLuvanee asked Mr. Angelastro if he can explain why there are no times when there was any measurement between 800' and 1600'.

Mr. Truelove objected stating this calls for speculation. Mr. Bamburak allowed the question, and Mr. Angelastro stated he did not ask this question of the person who recorded the queues.

Mr. VanLuvanee noted Page #7 and asked from what direction these queues were measured and at what intersection. Mr. Angelastro stated this would be eastbound Newtown-Yardley Road in the A.M. heading toward I-95.

Page #8 was noted and Mr. VanLuvanee stated he assumes this is a continuation of that same data as are the next few pages, and Mr. Angelastro agreed. Mr. VanLuvanee noted the page which has the "2" in the upper right hand corner and stated there are a number of places where the "inter" notation is listed, and he asked where this back up was from. Mr. Angelastro stated it was from Stony Hill to Lindenhurst. Mr. VanLuvanee noted there is no number greater than 850' on any of the pages so that he would assume that there were no queues measured between 850' and 1650, and Mr. Angelastro stated this is correct according to the sheets.

Mr. VanLuvanee noted the next set of sheets which are identified in the upper right hand corner "1" through "5" and asked what traffic movement is being recorded, and Mr. Angelastro stated it is the northbound movement on Stony Hill Road as you are approaching the By-Pass. Mr. VanLuvanee stated these sheets do not have feet in increments and instead have "1, 2, 3;" and he asked what this is. Mr. Angelastro stated unfortunately the data collector started counting cars as opposed to length; but she did correct this in the p.m.

Mr. VanLuvanee stated after those five sheets, there is a sheet identified as "Lori" 9/10/08, Newtown-Yardley Road –EB which he assumes is eastbound; and Mr. Angelastro stated while EB (eastbound) is how it is labeled, in reality it was the westbound approach. Mr. VanLuvanee asked how he knows it is westbound, and

Mr. Angelastro stated he spoke to Lori and he can tell by the lanes. Mr. VanLuvanee stated this would be traffic coming from the direction of Yardley toward Newtown at the intersection with Stony Hill, and Mr. Angelastro agreed. Mr. VanLuvanee noted there is a (--) and asked if this means there was no queue, and Mr. Angelastro agreed.

Mr. VanLuvanee stated at one point it states “green arrow,” and Mr. Angelastro stated this would be the exclusive left turn phase at the intersection. Mr. VanLuvanee stated he assumes this would mean that at that particular time, it would be the exclusive left-turn phase; and Mr. Angelastro agreed. Mr. VanLuvanee stated the “green arrows” seem to be somewhat randomly distributed, and he asked if that means that it did not fall at the two minute interval when she was taking the queue. He stated he assumes that the left-turn arrow comes within the same time interval during the peak hour, but Mr. Angelastro stated he does not know this for sure and he assumes that she noted this in the Note section when she saw the green arrow.

Mr. VanLuvanee asked how many pages describe the measurements of that particular movement (westbound on Newtown-Yardley Road) in the a.m., and Mr. Angelastro stated it would be three pages. Mr. VanLuvanee stated on the third page of that movement under Notes about 2/3 down there is some information on the right hand side, and Mr. Angelastro stated he does not know what this means and did not discuss this with the person taking this information.

Mr. VanLuvanee noted the next four sheets, and Mr. Angelastro stated this is the By-Pass eastbound in the p.m. at the intersection with Stony Hill Road.

Mr. VanLuvanee stated the next sheet says “Stony Hill,” and Mr. Angelastro stated this is the first sheet in a series of two sheets and it is northbound p.m. and he knows this by talking to the person who took the counts. Mr. Angelastro stated the last two sheets are northbound Stony Hill for the remaining portion of the peak hour, so it is really a series of four sheets for this movement.

Mr. VanLuvanee stated at the last Hearing they discussed the queue length table that was included in the power point presentation (Exhibit T-11). Mr. VanLuvanee asked who prepared that table, and Mr. Angelastro stated his associates prepared the table from the information in the sheets just discussed. Mr. VanLuvanee asked Mr. Angelastro if he reviewed it at the time it was prepared or only after it had been prepared, and Mr. Angelastro stated throughout the process he would look at it.

Mr. VanLuvanee asked where the queue length table shows greater than 1650 feet, would this correspond to the times where they see “inter” on the data sheets that

Mr. Angelastro indicated was the back up on eastbound By-Pass traffic that extended from Stony Hill Road back to Lindenhurst Road or beyond, and Mr. Angelastro agreed.

Mr. VanLuvanee asked what is the interval where they see greater than 1425’, and Mr. Angelastro stated this is back to the Interchange at I-95. Mr. VanLuvanee stated this would be westbound traffic on the By-Pass stopped at Stony Hill Road where it extended back past the light where you exit, and Mr. Angelastro agreed. Mr. VanLuvanee stated this would be indicated by “inter” on the data sheets, and Mr. Angelastro agreed.

Mr. VanLuvanee stated Mr. Angelastro also produced in CD form, a series of 300 photographs, and Mr. Angelastro agreed. Mr. VanLuvanee asked Mr. Angelastro if he looked at the pictures or did he just have everything he had produced; and Mr. Angelastro stated he asked his staff to put the pictures on CD and send it off. He stated he is not sure that he looked at all 300 photographs.

Mr. VanLuvanee noted Page 96, line 18 of Mr. Angelastro’s testimony of March 17, adding that Mr. Angelastro would periodically state the name of a slide and then go on to describe it which he feels is what it did on line 18, and Mr. Angelastro stated he does not recall. Mr. VanLuvanee stated at the beginning of Line 18, Mr. Angelastro made the statement, “The existing conditions analysis in the traffic report underestimates and misrepresents the existing vehicle queues by approximately a factor varying between 1.5 and 2,” and Mr. Angelastro agreed. Mr. VanLuvanee asked the basis for this statement, and Mr. Angelastro stated the queue lengths in the report versus what they observed in the field.

Mr. VanLuvanee stated they went through some of the assumptions that were in the McMahon report at the last meeting as well as some of the information regarding the peculiarities of the Synchro 7 Program that had been used to generate it, and Mr. Angelastro stated he did recall that. Mr. VanLuvanee asked Mr. Angelastro if he has reviewed the information he was shown by Mr. VanLuvanee at that last Hearing to determine whether or not the statement he made at Line 19 through 22 of the 3/17 transcript is still his opinion, and Mr. Angelastro stated it is still his opinion.

Mr. VanLuvanee stated that opinion is predicated on the accuracy of the information gathered by Mr. Angelastro’s staff, and Mr. Angelastro agreed this is correct.

Mr. VanLuvanee noted the next page of the transcript at the bottom at Line 23 Mr. Angelastro stated, “The build condition they are saying 240’ in the 2009 condition,” and he asked if he was referring the McMahon report, and Mr. Angelastro stated this is correct. Mr. VanLuvanee stated he was noting information from his queuing table that McMahon had indicated that the queue at the present time in 2009 was 248’ according to the analysis they did using the Synchro 7 software, and Mr. Angelastro agreed.

Mr. VanLuvanee stated Mr. Angelastro then testified, “Put in that factor of 1.5 and we are into Yardley-Newtown Road with our queuing.” Mr. VanLuvanee stated it appears he took his multiplier and indicated that if everything is off by 1.5 the queue will extend back to Yardley-Newtown Road, and Mr. Angelastro agreed. Mr. VanLuvanee stated he has indicated that the margin of error is one and a half to two so he is taking one and a half and multiplying it and that puts the queue back to the road, and Mr. Angelastro stated the approach he is referencing is from Newtown-Yardley Road approaching the proposed signalized intersection. Mr. VanLuvanee stated this would be persons turning off the By-Pass onto Stony Hill Road is the movement, and Mr. Angelastro agreed.

Mr. VanLuvanee stated as a practical matter, people would probably not stop in the middle of the By-Pass, and Mr. Angelastro stated they would if they could not go any further but agreed you would not expect anyone to stop there. Mr. VanLuvanee stated in theory they should wait at the light to make sure they can get through the intersection before the light changes, and Mr. Angelastro stated this is true in theory but unfortunately it is not the way people drive.

Mr. VanLuvanee asked Mr. Angelastro if he is stating that in every instance that he measured the queue length in the McMahan study, it was underestimated by a factor of 1.5, and Mr. Angelastro agreed that this is testimony and it was based on the information in the queue length table that was assembled by his staff which has been marked as Exhibit A-22.

Mr. VanLuvanee noted the top of page 98 of the transcript where Mr. Angelastro stated, “It is my opinion the potential reason for this inaccuracy – this could be a reason – that the report was generated on process volumes versus demand volumes,” and Mr. Angelastro agreed. Mr. VanLuvanee asked Mr. Angelastro if he would agree that part of the reason may be the points brought up at the last Hearing concerning the way the software package analyzes data. He asked if he would agree that it may not have anything to do with whether the report was generated on process volumes versus demand volumes but rather on the basis of the way the software program evaluates the data some of the points on which they reviewed at the last Hearing. Mr. Angelastro stated it could be demand versus process volume that was the reason for the error. Mr. VanLuvanee stated Mr. Angelastro stated on Line 2, that “this could be a reason,” and Mr. Angelastro agreed. Mr. VanLuvanee asked if he would acknowledge that there could be other reasons, and Mr. Angelastro agreed.

Mr. VanLuvanee noted Page 99 of the transcript beginning at Line 14, Mr. Truelove asked Mr. Angelastro a question as follows, “Just so I am clear, and I think I am, but the McMahan study then used a process volume approach versus a demand volume approach,” and Mr. Angelastro’s answer was, “It’s possible.” Mr. VanLuvanee asked if he could tell for sure, and Mr. Angelastro stated he cannot tell for sure. Mr. VanLuvanee stated Mr. Angelastro then stated, “That is one idea we within our group were thinking about that may be the reason for the inaccuracy.” Mr. VanLuvanee asked who is his

“group,” and Mr. Angelastro stated it was staff members in his firm. Mr. VanLuvanee asked if this is a collective opinion, and Mr. Angelastro stated it is his opinion based on the information they reviewed and collected.

Mr. VanLuvanee noted Line 20 “Model Simulation,” and stated this corresponds to one of the Exhibits in the power point, and Mr. Angelastro agreed. Mr. VanLuvanee noted the slide labeled “Model Simulation” and stated at the bottom Mr. Angelastro noted as the source for the comments, “Traffic Analysis Toolbox Volume 3 – Guidelines for Applying Traffic Micro Simulation Modeling Software of Federal Highway Administration, June, 2004,” and Mr. Angelastro agreed. Mr. VanLuvanee stated the three bullet points shown are guidelines for working with traffic micro simulation modeling software, and Mr. Angelastro agreed this is what it says. Mr. VanLuvanee stated Synchro 7 is not micro simulation modeling software, and Mr. Angelastro stated it is a modeling software. Mr. VanLuvanee asked if he would agree that it is not micro modeling software, and Mr. Angelastro stated he would have to look at the manual.

Mr. VanLuvanee marked as Exhibit A-23 and noted Page 1-1 of the Traffic Signal Software User Guide for Synchro Studio 7. Mr. VanLuvanee asked Mr. Angelastro if he would agree that the statement is made very clearly that Synchro is a Macroscopic Analysis Optimization program, and Mr. Angelastro agreed.

Mr. VanLuvanee stated he feels the point Mr. Angelastro was trying to make was perhaps McMahon should have done some additional calibration, and Mr. Angelastro agreed. Mr. VanLuvanee stated Mr. Angelastro made his points from a source that clearly was spelling out guidelines for micro simulation modeling software and not macro simulation modeling software. Mr. VanLuvanee asked Mr. Angelastro if he has any reference points that would suggest the importance of calibration with respect to macro simulation software, and Mr. Angelastro stated just what he has referenced.

Mr. VanLuvanee asked Mr. Angelastro if he knows the difference between micro simulation and macro simulation, and Mr. Angelastro stated micro is individual movements of vehicles and macro is system wide. Mr. VanLuvanee stated micro simulation would be analyzing one car as it goes through a particular intersection, and Mr. Angelastro agreed.

Mr. VanLuvanee stated Mr. Angelastro indicated that Synchro 7 software uses the Highway Capacity Manual methodology, and Mr. Angelastro agreed. Mr. VanLuvanee stated Highway Capacity methodology relies on average conditions through a peak hour for its modeling, and Mr. Angelastro agreed. Mr. VanLuvanee stated when using the Highway Capacity Manual methodology, level of service and delay as distinguished from queues is the measure of effectiveness, and Mr. Angelastro stated he feels they go hand in hand and if you are going to improve the level of service, you are going to reduce queue.

Mr. VanLuvanee stated during the power point, Mr. Angelastro had a slide labeled “Study Intersections” and another one called, “Additional Study Intersections.” Mr. VanLuvanee stated Mr. Angelastro stated that the Institute of Traffic Engineers recommends that when a proposed development is expected to add 100 or more peak hour trips to an intersection, that the intersection should be added to the study, and Mr. Angelastro agreed. Mr. VanLuvanee stated Mr. Angelastro concluded that based on that rationale, there should have been two additional intersections included in the McMahan report, and Mr. Angelastro agreed. Mr. VanLuvanee stated the Lower Makefield Township Traffic Impact Study requirements do not indicate that when a project is anticipated to add 100 or more peak trips to an intersection that you are supposed to expand the scope of your study, and Mr. Angelastro agreed that it does not.

Mr. VanLuvanee stated since they have been referencing the Traffic Impact Study requirements, he feels they should be marked, and Mr. VanLuvanee marked these as Exhibit A-24.

Mr. VanLuvanee noted the last page of Exhibit T-11 labeled “Conclusions.” Mr. VanLuvanee stated Mr. Angelastro indicated in his testimony on page 106, lines 24 and 25 on page 107 that “the proposed roadway improvements may not, will not, mitigate the anticipated impact from the Hospital.” Mr. Angelastro agreed this is what he stated. Mr. VanLuvanee asked that Mr. Angelastro tell the Board what factors he took into consideration in expressing that opinion, and Mr. Angelastro stated it was primarily the fact that the queue was greater than what was indicated in the report and they felt that the existing conditions were not accurately shown so that you could not draw conclusions in the build condition that the proposed improvements would mitigate the impact of the project. Mr. VanLuvanee stated this was based solely on the queue analysis which is the data in Exhibit A-22, which was data from one day, and Mr. Angelastro agreed.

Mr. VanLuvanee stated the McMahan report contained a lot of information including traffic counts and based on traffic counts they then projected levels of service. Mr. VanLuvanee stated Mr. Angelastro had indicated that he agreed with that methodology, and Mr. Angelastro stated that is standard methodology to prepare a traffic report. Mr. VanLuvanee stated a queue analysis is not standard methodology in a traffic report and is not actually required by the Lower Makefield Township guidelines for Traffic Impact Studies, and Mr. Angelastro agreed it is not specifically required in the Lower Makefield Code.

Mr. VanLuvanee stated when Mr. Angelastro stated “if a report does not reflect existing conditions correctly, there is no confidence that the report represents the build condition accurately,” the only existing condition that he was suggesting may not have been accurate was the queue length analysis, and Mr. Angelastro agreed. Mr. VanLuvanee stated Mr. Angelastro was not suggesting that McMahan miscounted the amount of traffic on the road, and Mr. Angelastro stated they do not know that, but based on the information in the report he has no reason to assume that they miscounted.

Mr. VanLuvanee asked if Mr. Angelastro has reviewed their reports before, and Mr. Angelastro stated he has. Mr. VanLuvanee stated one of the things you review when you review a traffic impact study is the methodology to make sure it comports to generally-accepted traffic engineering standards for preparing traffic impact statements, and Mr. Angelastro agreed. Mr. VanLuvanee stated Mr. Angelastro did not testify that they did not follow generally-accepted guidelines, and Mr. Angelastro stated this is correct. Mr. VanLuvanee stated Mr. Angelastro is not suggesting that they did not run the software program correctly in determining levels of service that were contained within the report, and Mr. Angelastro agreed that he did not make this comment. Mr. VanLuvanee stated Mr. Angelastro is not suggesting that when they added the traffic to be generated from their project that they used the wrong figures, and in fact agreed that they used the same source he would have used which is the ITE Trip Generation Manual, and Mr. Angelastro agreed. Mr. VanLuvanee stated he would assume that for purposes of Mr. Angelastro's analysis that McMahan correctly input the total amount of additional traffic. Mr. VanLuvanee stated Mr. Angelastro did not criticize the background growth rate that McMahan utilized in their report, and Mr. Angelastro stated he did not.

Mr. VanLuvanee stated Mr. Angelastro did not criticize their analysis as to what the levels of service would be for the intersections and traffic turning movements within the scope of their study post development with the improvements that they were suggesting; and Mr. Angelastro stated he indicated that he would expect the queue to be longer in the build condition than what is shown in the McMahan report. Mr. Angelastro stated he does not disagree on the methodology McMahan used to generate the build condition, but his opinion is that the queue lengths may result in blocking of intersections which will result in a lower level of service at some of the intersections. Mr. VanLuvanee asked if it is not true that for some of these movements, they already have instances when there are intersections that can be blocked at certain times under today's condition before development, and Mr. Angelastro agreed.

Mr. VanLuvanee stated one of the reasons they make improvements is to mitigate impact, and he asked Mr. Angelastro if he has any reason to doubt that any of the improvements that McMahan proposed in connection with the project as outlined in the Traffic Impact Study will in fact have some mitigation impact; and Mr. Angelastro stated there may be some improvement. Mr. VanLuvanee stated Mr. Angelastro previously testified, "the proposed improvements, may not, will not, mitigate the anticipated impact."

Mr. VanLuvanee stated what they are trying to mitigate is the incremental increase in traffic, and Mr. Angelastro agreed. Mr. VanLuvanee asked Mr. Angelastro what analysis he did other than to conclude that existing queues are greater than McMahan's Traffic Impact Study suggested they were, to determine what mitigation impact the improvements proposed by Frankford Hospital to the area roadways would have on existing conditions. Mr. Angelastro stated they did not do any independent analysis. Mr. VanLuvanee asked Mr. Angelastro if he has an opinion as to what improvements are necessary to mitigate the Hospital's impact.

Mr. Truelove objected since this is not what he was asked to do. Mr. Bamburak sustained.

Mr. Malinowski joined the meeting at this time.

Mr. VanLuvanee asked Mr. Angelastro if his firm attempted to determine what improvements would be necessary to mitigate the impact of the project.

Mr. Truelove objected stating this is not what they were asked to do or are they required to do as they do not have the burden of proof in this case.

Mr. Toadvine stated he is only asking if they did it, and Mr. Angelastro stated they did not.

Mr. VanLuvanee stated before making a statement that the improvements recommended in the Study will not be sufficient to mitigate the impact of development, they would have to form an opinion as to what the impact of the development would be, and Mr. Angelastro stated his opinion was based on the review of the report and the analysis that was done.

Mr. VanLuvanee asked when they use the term, “impact of the development,” how do they measure this. Mr. Angelastro stated it would be additional delay and additional traffic as a result of your project. Mr. VanLuvanee asked Mr. Angelastro when he made the statement that the recommended improvements would not be sufficient to mitigate the impact, what analysis did he do to determine the accuracy of his opinion.

Mr. VanLuvanee noted the Traffic Study recommends adding a second left turn lane on Stony Hill Road which would keep the Level of Service the same or improve it for that turning movement, and he asked if Mr. Angelastro would agree generally that if you add a second left turn lane at an intersection where the existing traffic movement results in queues because not enough cars can get through that this would improve the situation; and Mr. Angelastro stated he would agree for that particular movement. Mr. VanLuvanee asked if they could not expect to get twice as many cars through that movement, and Mr. Angelastro stated this would be a reasonable assumption. Mr. VanLuvanee stated if the impact from the project is not doubling the number of cars making that turning movement, you would expect an improvement from adding the second left turn movement.

Mr. Truelove objected stating this would call for speculation.

Mr. VanLuvanee stated these are matters well within the expertise of an expert witness.

Mr. Bamburak sustained.

Mr. VanLuvanee asked if Mr. Angelastro is familiar with the recommendations of the Citizens Traffic Commission report, and Mr. Angelastro stated he did review the report but it was some time ago. Mr. VanLuvanee asked Mr. Angelastro if he recalls the information in the Delaware Valley Regional Planning Commission Regional Traffic Study, and Mr. Angelastro stated he does recall looking through this, but does not recall that specific report in great detail. Mr. VanLuvanee stated he recalls that Mr. Angelastro previously testified that he had not reviewed the Township's Act 209 Study, and Mr. Angelastro stated he did not. Mr. VanLuvanee stated Mr. Angelastro would not therefore know whether or not the improvements that Frankford proposes to make as set forth in the McMahan Report are consistent with what was recommended in those three reports, and Mr. Angelastro stated he is not 100% confident in this.

Mr. VanLuvanee stated Mr. Truelove asked Mr. Angelastro whether the opinions he gave the Zoning Hearing Board were to a "reasonable degree of engineering certainty," but Mr. Angelastro stated he did not recall this. Mr. VanLuvanee noted Page 107 of the 3/17/09 transcript lines 8 to 10 and Mr. Angelastro's answer was on line 11, and Mr. Angelastro agreed. Mr. VanLuvanee asked what is a "reasonable degree of engineering certainty," and Mr. Angelastro stated after reviewing the documents provided, based on his experience and judgment, this would be his "engineering certainty." Mr. VanLuvanee stated he assumes that he means he would be reasonably certain that simply because he believes that McMahan underestimated the length of the queues that exist today at the intersections in the vicinity of this project, that the improvements being proposed will not mitigate the incremental increase in traffic from this project, and Mr. Angelastro stated it may not mitigate the incremental increase. Mr. VanLuvanee asked if it is his opinion that it "may not" or that it "will not," and Mr. Angelastro stated he would state that it may not. Mr. VanLuvanee stated Mr. Angelastro is saying this based solely on the review of the study without having conducted any independent analysis, and Mr. Angelastro agreed. Mr. VanLuvanee stated this is based solely on the length of the queues observed today without having projected the length of the queues into the future after the improvements are implemented, and Mr. Angelastro agreed.

Mr. VanLuvanee stated Mr. Angelastro indicated that he had been in the general vicinity of the project site, and Mr. Angelastro agreed. Mr. VanLuvanee asked Mr. Angelastro, based on his personal observations, are there existing traffic deficiencies in the vicinity of the project, and Mr. Angelastro stated there are. Mr. VanLuvanee asked what they are, and Mr. Angelastro stated queuing is one of them as well as delay along the By-Pass based on his observations. Mr. VanLuvanee asked Mr. Angelastro what he would say is the biggest deficiency he has personally observed, and Mr. Angelastro stated it would be the queue. Mr. VanLuvanee asked if the eastbound through movement is the biggest problem, and Mr. Angelastro agreed. Mr. VanLuvanee asked Mr. Angelastro if he would also agree that the westbound left turn movement onto Stony Hill is deficient, and

Mr. Angelastro agreed. Mr. VanLuvanee stated with respect to the eastbound through movement, McMahon has proposed to add a second through lane and he asked Mr. Angelastro if he would not expect the addition of a second dedicated through lane to improve the traffic flow generally for this movement.

Mr. Truelove stated he would object only to whether Mr. VanLuvanee is talking about current conditions or projected conditions.

Mr. VanLuvanee stated Mr. Angelastro testified that his observation was that the eastbound through movement was the biggest deficiency and he is now asking Mr. Angelastro as a traffic engineer would he not expect that the addition of a second through lane would improve that condition.

Mr. Truelove asked whether this means based on current volumes or projected volumes, and Mr. VanLuvanee asked Mr. Angelastro if they put this in today, would he expect the condition to improve; and Mr. Angelastro stated if you add a lane, you expect to add capacity. Mr. VanLuvanee stated regardless of how much traffic is added if there were no Hospital built, you would still expect in the future that second left through lane would improve conditions over not having the second through lane, and Mr. Angelastro agreed.

Mr. VanLuvanee stated with respect to the other traffic movement Mr. Angelastro indicated to be deficient which is the left turn onto Stony Hill Lane, McMahon is proposing to add a second left turn lane; and he asked Mr. Angelastro based on his experience would he not expect that the additional of the second left turn lane would improve the conditions for those turning left, and Mr. Angelastro stated he would expect it to improve.

Mr. VanLuvanee asked Mr. Angelastro if he agrees that generally two lanes are better than one, and applying this to the two movement just described, how can he state that the improvements that are proposed will not mitigate the impact of the Hospital.

Mr. Truelove objected stating that Mr. VanLuvanee is now talking about current conditions versus projected, and Mr. Angelastro has answered this question numerous times.

Mr. VanLuvanee stated he has not answered it since the last time he asked it, it was objected to and the objection was sustained so he is laying a different foundation to get to the same point.

Mr. Truelove stated the foundation is based upon current conditions.

Mr. VanLuvanee stated he is asking Mr. Angelastro his opinion on his own observations.

Mr. Bamburak allowed the question.

Mr. Angelastro asked that he repeat the question. Mr. VanLuvanee stated there are actually two through lane going eastbound today, and McMahon has proposed a third; but it is the same general principal in that one additional lane will add additional capacity, and Mr. Angelastro agreed. Mr. VanLuvanee asked how Mr. Angelastro can make the statement he did that the proposed improvements will not mitigate the traffic impact of the Hospital on this intersection for those particular movements, and Mr. Angelastro stated he would agree that he would expect the capacity to increase on those particular movements. Mr. VanLuvanee asked if he would expect the capacity to increase on those particular movements to an extent greater than the additional traffic contributed by the project based on the figures in the McMahon Traffic Impact Statement, and Mr. Angelastro agreed he would expect this for those particular movements.

A short recess was taken at this time. The meeting was reconvened at 9:00 p.m.

Neither Mr. Smolow nor Mr. Koopman had any questions for Mr. Angelastro.

Mr. Truelove asked Mr. Angelastro how many times he went out to the site, and Mr. Angelastro stated he went out four to five times generally during the peak periods which were consistent with the times identified in the McMahon information. Mr. Truelove asked if he himself took photographs, and Mr. Angelastro stated his staff members took photographs. Mr. Truelove asked if what he observed in the photographs was consistent with what he himself observed, and Mr. Angelastro agreed. Mr. Truelove asked if those distances that he saw in terms of the queuing were consistent with what was in the reports from his field people.

Mr. VanLuvanee objected based on foundation.

Mr. Truelove asked if Mr. Angelastro saw queuing eastbound Route 332 past Lindenhurst Road, and Mr. Angelastro stated he did. Mr. Truelove asked if this is the 1600' mark that was referenced earlier, and Mr. Angelastro agreed. Mr. Truelove noted the 800' mark which was referenced in some of the measurements and asked if this was the extent of the number of stakes that was established by his staff.

Mr. VanLuvanee objected adding the Witness has already testified that he could not answer that. Mr. Truelove stated this specific question was not asked.

Mr. Malinowski allowed the question.

Mr. Angelastro stated they did put out stakes to mark off distance, but he does not know at what point they terminated those stakes. Mr. Truelove asked that he check with his staff on this.

Mr. Truelove asked if a queue analysis can be done with a field staff simultaneously with a volume analysis, and Mr. Angelastro stated it can. Mr. Truelove stated McMahon could have had people out there the same time they did volume analysis, but did not do this, and Mr. Angelastro agreed. Mr. Truelove stated before the McMahon study was completed they had communication with PennDOT representative, Mr. Hanney, advising them about a queue issue that he was concerned about, and Mr. Angelastro agreed this is correct based on e-mails that he reviewed.

Mr. Truelove asked Mr. Angelastro when he was on the site, on eastbound 332 would he agree that between the light at Lindenhurst and the light at Stony Hill Road there is a marked right turn lane.

Mr. VanLuvanee objected to the form of the question adding this is not cross examination.

Mr. Malinowski allowed the question.

Mr. Angelastro agreed there is a marked right turn lane. Mr. Truelove asked Mr. Angelastro what he observed about some of the traffic currently using that lane and asked if it is being used as a right turn lane all the time. Mr. Angelastro stated when there are vehicle queues in the two through lanes, people will jump out and proceed in that right turn lane. Mr. Truelove asked if “lane jumping” is a term Mr. Angelastro is familiar with from an engineering perspective, and Mr. Angelastro stated they would come out of the lane that they are stopped in to keep moving. Mr. Truelove asked if that was also true in that direction approaching the I-95 intersection as well – moving from the left to the right lane or vice versa, and Mr. Angelastro stated he did observe people moving from lane to lane. Mr. Truelove asked if this has an impact on his experience on back-ups and stacking, and Mr. Angelastro stated he feels people will always try to move to the lane that is moving. Mr. Truelove asked if this is something that a simulated computer will measure or observe or identify, and Mr. Angelastro stated he does not know specifically if it models the switching of lanes. Mr. Truelove asked if you can calibrate this, and Mr. Angelastro stated he does not believe that this is something that you can calibrate. Mr. Truelove stated this would be something someone would have to observe in order to identify, and Mr. Angelastro agreed.

Mr. Truelove stated something that contributes to the estimate of traffic in an area would be what is contributed to that area from developments nearby that may be built, and Mr. Angelastro agreed. Mr. Truelove asked in this case how many developments did McMahon identify in the study area, and Mr. Angelastro stated he believes it was three one of which was Floral Vale where they used 60,000 square feet as opposed to 180,000 square feet.

Exhibit A-24 was noted which is the Traffic Impact Study requirements for Lower Makefield Township. Mr. Truelove noted Page 4, sub section 7 and he asked Mr. Angelastro the title of this sub-section. Mr. Angelastro stated it is “Conclusions and Recommended Improvements.” Mr. Truelove asked that he read this into the record, and Mr. Angelastro read as follows: “Levels of Service of all roadways and intersections shall be listed” Mr. Truelove asked if this was done by McMahon, and Mr. Angelastro stated it was. Mr. Angelastro continued reading as follows: “All roadways and/or intersections showing Level of Service below C shall be considered deficient and specific recommendations for the elimination of these problems shall be listed unless design limitations preclude obtaining Level of Service C.” Mr. Truelove asked, even with the proposed improvements, were all the intersections showing a Level of service C after the proposed improvements, and Mr. Angelastro stated he would have to review the report.

Mr. Truelove asked that he continue to read, and Mr. Angelastro read as follows: “Where such conditions exist, traffic engineer shall seek guidance from the Township prior to the submission of a Traffic Impact Study.” Mr. Truelove asked Mr. Angelastro if he is aware if anyone from McMahon contacting the Township prior to the submission of the traffic study regarding guidance.

Mr. VanLuvanee objected due to foundation as he is not sure how this Witness would know the answer to this question. Mr. Truelove stated he is asking him if he knows, and Mr. Angelastro stated he is not aware of anyone contacting the Township. Mr. Truelove asked if there is anything in the report that McMahon submitted that indicated that they did attempt to contact the Township regarding this other than the Website, and Mr. Angelastro stated no. Mr. Truelove asked if they contacted the Township engineer.

Mr. VanLuvanee objected and Mr. Malinowski sustained.

Mr. Truelove asked if the McMahon report indicated that the Township engineer was contacted, and Mr. Angelastro stated it did not. Mr. VanLuvanee stated the report speaks for itself.

Mr. Truelove asked that Mr. Angelastro continue reading, and Mr. Angelastro read as follows: “Listing of recommended improvements shall include but not limited to the following elements, internal circulation design, site access location and design, external roadway and intersection design and improvements, traffic signal installation and operation including signal timing, and transit design improvements. All physical roadway improvements shall be illustrated.” Mr. Truelove asked if physical roadway improvements were illustrated for the segment between Stony Hill and I-95.

Mr. VanLuvanee objected due to improper redirect as he did not cover any of this in his cross-examination.

Mr. Truelove stated Mr. VanLuvanee included reference to this document and he believes he can ask questions on it. He stated Mr. VanLuvanee cannot just selectively take part of it and say this is what applies and not allow him to expand on it since it is relative to the entire case. Mr. VanLuvanee stated he was covering points that Mr. Truelove covered in direct, and he did not ask Mr. Angelastro his analysis of the impact study. He added he talked about the study area and this was the limit of the discussion. Mr. Truelove stated Mr. VanLuvanee also referenced other developments, and he feels he is allowed to ask questions about this since Mr. VanLuvanee opened the door on that. Mr. VanLuvanee stated Mr. Truelove was the one who brought in other developments and offered it through the Newtown Township representative over his objection. Mr. Truelove stated then Mr. VanLuvanee asked questions of this Witness about that the first time he was questioned. Mr. VanLuvanee asked Mr. Truelove what this has to do with illustrating physical roadway improvements, and Mr. Truelove stated he is getting to that as these are foundation questions. He stated Mr. VanLuvanee was allowed to go far afield of that, and he is trying to cover the same ground.

Mr. Malinowski allowed Mr. Truelove to proceed.

Mr. Truelove asked Mr. Angelastro if the McMahon proposal show all physical roadway improvements illustrated in the segment between Stony Hill Road and I-95, and Mr. Angelastro stated it did not.

Mr. Truelove noted the previous page of the Exhibit and noted Sub-Section 3, last sentence which he asked Mr. Angelastro to read. Mr. Angelastro read as follows: "This analysis will determine the adequacy of the existing roadway system to serve the current traffic demand. Roadways and/or intersections experiencing Levels of Service D, E, or F shall be noted as congestion locations." Mr. Truelove asked if currently there are different intersections in this particular location which experience Levels of Service D, E, or F, and Mr. Angelastro stated he believes so. Mr. Truelove asked if they were noted by McMahon as congestion locations, and Mr. Angelastro stated he does not believe that they were specifically identified as congestion locations in the report.

Mr. Truelove noted Sub-Section 5 on that page, and he asked Mr. Angelastro to read the Title and the sentences that follow. Mr. Angelastro read as follows, "Analysis of Transportation Impact. The total future traffic demand shall be calculated. This demand shall consist of combination of existing traffic expanded to the completion year using a background growth rate which best reflects the intensity of growth projected in the Municipality. The rate should be based on acceptable parameters such as population and employment and be monitored to insure that the rate accurately reflects local conditions."

Mr. Truelove asked if other developments in an adjacent Municipality would be relevant to that consideration from an engineering perspective.

Mr. VanLuvanee objected to this line of questioning. He stated the Witness directly answered one of his questions and said he agreed with the scope of the methodology, agreed with the methodology that was utilized, and he agreed with the background traffic growth rate. He stated this is not cross examination, and Mr. Truelove is attempting to get his Witness to give a different answer than he already got. Mr. Truelove stated he agreed that it was appropriate methodology, but did not say it was the only methodology and also he did not say it was his methodology. Mr. VanLuvanee stated he is then opening up a brand new line of questioning. Mr. Truelove stated Mr. Angelastro referenced other developments but Mr. VanLuvanee did not allow him to do it, and now Mr. Angelastro is saying that he would rely on other developments to do that. Mr. Truelove stated he feels it is appropriate to ask that question. Mr. Truelove stated Mr. Angelastro has already stated on direct examination that other developments should be considered in an adjacent Municipality which borders this particular location, and this would be directly relevant to that issue and would also go directly to the issue of whether there was an underestimate of the traffic volume by McMahan which led to the flawed analysis that Mr. Angelastro already testified to.

Mr. Malinowski sustained the objection.

Mr. Truelove asked Mr. Angelastro if other developments impact on population and employment.

Mr. VanLuvanee objected adding this is beyond the scope of cross examination.

Mr. Truelove stated this is a basic background question.

Mr. Malinowski sustained the objection.

Mr. VanLuvanee stated he believes there is a duplication with regard to the Exhibits as he believes Mr. Truelove offered on 4/6 Exhibit T-12 a copy of the Traffic Impact Study which is the same of Exhibit T-24. It was agree to leave both in since there have been references to Exhibit T-24 already.

Mr. Truelove noted Exhibit A-18 which is the Synchro Software, and Mr. Truelove noted page 7-27. H asked Mr. Angelastro to read the sentence after the note. Mr. Angelastro read as follows, “In many cases the 95th percentile queue will not be experienced due to upstream metering.” Mr. Truelove asked if it states “In all cases,” and Mr. Angelastro stated it does not. Mr. Truelove asked Mr. Angelastro in his experience what would be the appropriate approach in cases that were not “many cases.”

Mr. VanLuvanee objected to the form of the question. Mr. Malinowski allowed the question.

Mr. Truelove rephrased the question as follows – in the cases that are not the “many cases” referenced, in his experience, what would be the appropriate approach to deal with the queue analysis; and Mr. Angelastro stated as he previously indicated some form of calibration should be initiated on the model. Mr. Truelove asked if calibration is specific to the location, and Mr. Angelastro stated it is specific to approaches. Mr. Truelove stated this was not done by McMahon in this case, and Mr. Angelastro agreed.

Mr. Truelove noted the 1998 Study that McMahon conducted for both Lower Makefield Township and Newtown Township, and Mr. Angelastro stated he is familiar with that study. Mr. Truelove noted the excerpt that Mr. VanLuvanee identified last time which was Exhibit A-19 – Alternatives Analysis Study O/R Zoning District prepared for Newtown Township and Lower Makefield Township. Mr. Truelove showed an excerpt from this document which he marked as Exhibit T-13.

Mr. VanLuvanee stated he is objecting in anticipation of the line of questioning which is opening up a different part of the Alternative Analysis adding he did not bring this up first and it was brought up by Mr. Truelove on direct examination. He stated he does not feel he opened up the door for a lot of other subject matter that may be in that Analysis. Mr. VanLuvanee stated Mr. Truelove brought this up in his direct examination but he did not offer the document which is while Mr. VanLuvanee offered excerpts. He added if Mr. Truelove feels he wants the whole document in the record, he does not have a problem with that. He stated rather than having a battle of excerpts, they should agree to put the entire document in. Mr. Truelove stated he does not have the entire document with him this evening. Mr. VanLuvanee stated they could produce this by agreement. Mr. Truelove stated he needs to ask the questions tonight and he has excerpts for that purpose. Mr. VanLuvanee stated he has no objection provided they agree that they will put the entire document in.

Mr. Truelove asked Mr. Angelastro, assuming the applicability of the Traffic Impact Study requirement for the study area in Lower Makefield being one half mile, is he familiar with the intersection of Route 332 and Lower Silver Lake Road; and Mr. Angelastro stated he is. Mr. Truelove asked how far that intersection is from the site of the proposed Frankford Hospital, and Mr. Angelastro stated it is one half mile.

Mr. Truelove asked if it was included in the study by McMahon, and Mr. Angelastro stated it was not.

Mr. Truelove noted Exhibit T-13 pages 16 through 18 which references study area roadways. Mr. Truelove stated attached to that page are different roadways that are referenced as part of the study area, and Mr. Angelastro agreed that this is Table 6.

Mr. Truelove stated the location that this study is looking at is the same roadway segment on Route 332 and also Stony Hill Road – that intersection that is the subject of the Frankford Application, and Mr. Angelastro agreed. Mr. Truelove stated there are a list of roadways on page 17, and he asked Mr. Angelastro if these roadways were considered as part of the McMahan study for the Frankford Hospital Application.

Mr. VanLuvanee objected stating the study speaks for itself and he does not understand the relevance of whether it was in this study or not. Mr. Truelove stated the point is that McMahan did it for one study for the same intersection for the same area to make certain recommendations that Mr. VanLuvanee asked about last time, and he feels he can follow up on those questions. Mr. VanLuvanee stated this is why they need the whole study. He stated this study was done for an entirely different purpose and done for two Townships to study the build out of this whole region in two Townships – not in one Township on one project site. Mr. Truelove stated this is his point because those two Townships joined together because of their concern about this location in 1998. He does not feel it should not be allowed in because it is not favorable to the Applicant. Mr. VanLuvanee stated he has already stipulated that he can put the whole report in if he chooses to. Mr. Truelove stated while this is fine, he needs to highlight for Mr. Angelastro what some of those things are.

Mr. Malinowski stated he feels he would like to see the whole report before they start delving into excerpts. He stated the Board does not have the whole report, and he does not see how the excerpts will help the Board reach their final decision. Mr. Truelove stated he would disagree and feels he is being put at a disadvantage because Mr. VanLuvanee was allowed to put in an excerpt and now he is trying to do the same thing. Mr. VanLuvanee stated Mr. Truelove opened this up by mentioning the document but there was nothing in the record so Mr. VanLuvanee brought in what was relevant to what the Witness testified to. Mr. Malinowski suggested that they bring in the whole study, and he will allow them to go back at that time. This was agreeable to the attorneys.

Mr. Truelove asked Mr. Angelastro in reviewing the McMahan study for the Hospital, how many days did McMahan perform counts, and Mr. Angelastro stated it was a single day.

Mr. Truelove asked if Cricklewood Green and the Villas of Newtown be within one half mile of the proposed Hospital, and Mr. Angelastro stated they are within one half mile but they were not in the McMahan study.

Mr. Truelove asked going through Mr. Angelastro's staff's fields notes in the queue analysis (A-22) what are some of the factors that contribute to varying degrees of backing and stack up within a five minute period of time and asked if it is the types of vehicles and other lights at nearby intersections.

Mr. VanLuvanee asked if he is asking this specifically with respect to these notes or is he asking about this generally speaking. He added if he is asking specifically about these Notes he would object since Mr. Angelastro already testified that he did not prepare them.

Mr. Truelove asked Mr. Angelastro in his experience as a traffic engineer looking at the field notes can he explain the differences in queuing where it indicates “inter” in one section and then within two minutes a specific number of feet; and he asked what are some of the factors that contribute to that in his experience.

Mr. VanLuvanee objected and stated the question would be what were the factors that contributed and there is obviously a Witness available who could testify. He stated this Witness indicated that he could not tell this, but his staff made the notes and presumably, they could testify. Mr. Truelove stated Mr. Angelastro stated he did not know specifically in this case, but he is asking him now as a traffic engineer based upon his experience. Mr. VanLuvanee stated this would be purely speculative and he would object.

Mr. Malinowski allowed the question.

Mr. Malinowski stated it appears that McMahon Associates was there more than one day, and Mr. Truelove stated they only did one day of counts although they were there more than one time. Mr. Malinowski suggested that they review the report.

Mr. Angelastro stated to his knowledge they counted each intersection a single time. Mr. Angelastro stated what effects vehicle queue lengths is volume, number of heavy vehicles such as tractor trailers in the traffic stream, and signal timing within the area.

Mr. Truelove asked if quarry truck traffic would contribute to this, and Mr. Angelastro stated they are longer than a typical passenger vehicle so it would contribute to this as they would take up more space.

Mr. Truelove noted the different sheets Mr. Angelastro’s field staff prepared and asked him to identify the longest queues in the a.m. timeframe on Newtown-Yardley Road. Mr. Truelove noted the sheet identified in the right hand corner as page 2, and Mr. Angelastro stated they observed a queue from 6:57 a.m. to 7:56 a.m. extending from Stony Hill Road to Lindenhurst. This was the longest time period where you had this queue extending between those two locations. Mr. Truelove asked if this is also considered a peak time, and Mr. Angelastro stated he believes the McMahon report used the peak hour of 8 a.m. to 9 a.m. for the intersection of Stony Hill and Newtown-Yardley Road, and these queues were an hour before that. Mr. Truelove asked Mr. Angelastro if he is aware as to what time the proposed shifts for the Hospital would be, and Mr. Angelastro stated he feels the shifts were 7 a.m. to 7 p.m. for some of the staff.

Mr. Truelove stated as part of his report and also in response to Mr. VanLuvanee's questions, Mr. Angelastro mentioned a factor of 1.5 which is the variation between his analysis and that of McMahon's; and Mr. Angelastro agreed it was the variation between their observation and McMahon's report. Mr. Truelove stated Mr. Angelastro had actually stated 1.5 to 2; and Mr. Angelastro stated some locations experienced a factor of 2 and other locations were 1.5. Mr. Truelove stated Mr. Angelastro limited it to 1.5 in his report, and Mr. Angelastro stated he believes so but he feels he would have to check this. Mr. Truelove stated Mr. Angelastro's would be more conservative for the approaches he had available to him, and Mr. Angelastro stated this would be correct if he used a factor of 1.5 as opposed to 2.

Mr. Truelove asked if the Synchro Software makes any distinction between process versus demand volume, and Mr. Angelastro stated volume is an input variable that the operator puts in.

Mr. Truelove stated Mr. Angelastro was asked a question about the Synchro Software – its micro versus macro approach to analysis, and asked if that distinction changes Mr. Angelastro's opinion in any way as to the queuing that he observed and his staff measured, and Mr. Angelastro stated it does not.

Mr. Truelove stated Mr. Angelastro was asked questions on cross examination about volumes and queuing. Mr. Truelove stated the Hospital is a 24/7, 365 day operation, and Mr. Angelastro stated this is his understanding. Mr. Truelove stated the volume of traffic on weekends according to Mr. Angelastro's report is higher than it would be if this were an office building in the same location.

Mr. VanLuvanee objected adding he did not touch on this on cross-examination. He stated it was covered in direct, but he did not re-open it.

Mr. Malinowski sustained.

Mr. Truelove stated he will have to make a determination whether he will be bringing Mr. Angelastro back.

Mr. Smolow noted Exhibit A-22 Page 8, 9, and 10, and stated Mr. Smolow stated he assumes these are sequential pages and Mr. Angelastro agreed. Mr. Smolow stated these pages collect data in the morning hours beginning at 6:46 a.m. and run until 8:30 a.m.; and Mr. Angelastro stated it goes to 9:00 a.m. Mr. Smolow noted page 8 beginning at 6:55 a.m. in the center lane, the data collector wrote down "inter" and he understands that this means that traffic is backed up from the intersection of Stony Hill Road back to Lindenhurst Road, and Mr. Angelastro agreed. Mr. Smolow stated two minutes later, it is the same condition, and Mr. Angelastro agreed. Mr. Smolow stated it is the same

condition from 6:55 a.m. to 7:20 a.m., and Mr. Angelastro agreed. Mr. Smolow stated this condition is continuous to 7:20 a.m., and Mr. Angelastro agreed. Mr. Smolow stated on page 9 it starts with 7:22 a.m. and from 7:22 a.m. to 7:56 a.m. there is the word “inter” with ditto marks, so again during that period of time the data collector reported that traffic was backed up from the Stony Hill intersection back to Lindenhurst without a break, and Mr. Angelastro agreed. Mr. Smolow stated there is a continuous back up from Stony Hill to Lindenhurst from 6:55 a.m. until 7:56 a.m. which is one whole hour, and Mr. Angelastro agreed. Mr. Smolow stated the back up subsides for four minutes from 7:58 a.m. until 8:02 a.m. and during that period of time the back up ranges between 650’ and 755’ and then at 8:02 a.m. the back up extends again from Stony Hill to Lindenhurst until 8:09 a.m., and Mr. Angelastro agreed.

Ms. Michelle Fountain was called and sworn in. Ms. Fountain stated she is a Senior Project Engineer for CKS Engineers and is the Newtown Township engineer. Ms. Fountain provided her CV and this was marked as Exhibit T-14 and this describes her background and experience including her education. She is a certified engineer in Pennsylvania. The experience referenced in T-14 includes her work in a Municipal engineer capacity including familiarity with Subdivision and Land Development Ordinances. She stated she has also helped draft Subdivision and Land Development Ordinances and is familiar with and responsible for implementing, reviewing, and addressing issues presented by the Newtown Township related Subdivision and Land Development Ordinances. Mr. Truelove asked if her work includes reviewing development plans that reference traffic impact studies, and Ms. Fountain stated it does and she reviews those as part of her overall process to determine whether a proposed development meets the requirements of the SALDO Ordinance for Newtown Township. Ms. Fountain was offered as an expert in Municipal engineering issues including but not limited to oversight of developments that includes traffic impact studies.

Mr. VanLuvanee stated he is not willing to accept her as an engineer with respect to traffic impact studies based on her qualifications although he does respect Ms. Fountain as a professional engineer. Mr. Truelove stated he is not offering as a traffic expert but as someone who is familiar with traffic impact studies and relies on those as part of the SALDO review. Mr. VanLuvanee stated he would renew his objection with respect to traffic-related issues. Mr. Truelove stated they have heard from the Newtown Township Zoning Officer about some developments previously, and Ms. Fountain is here to expand on that and provide more detail with respect to those developments. He stated she is as expert as Mr. Gallo was in identifying the developments in Newtown Township, where they are located, the square footage if applicable or number of units, and also since it has been discussed earlier, the study area referenced in the Newtown Township SALDO because that is an issue in this case in terms of its impact on the review of the traffic impact.

Mr. VanLuvanee stated Newtown Township's Traffic Impact Study requirements are certainly not relevant to the Lower Makefield Township Traffic Impact Study requirements. He stated with respect to the developments, they have already been through this, over his objection, and the Township's witness was already permitted to testify. Mr. Truelove stated there is testimony in the record but Mr. VanLuvanee also referenced that the Newtown Township study area definition may be different and he would like to elaborate on this with Ms. Fountain because it is also relevant to some prior McMahon studies in other developments in the neighboring area including the one that will be admitted apparently as T-13.

Mr. Toadvine stated he is offering Ms. Fountain as a Civil engineer, and Mr. Truelove agreed; and Mr. Toadvine stated he does not feel Mr. VanLuvanee has an objection to this, and Mr. VanLuvanee stated he does not. Mr. Toadvine stated if questions arise, Mr. VanLuvanee will object.

Mr. Truelove asked Ms. Fountain as part of her review of SALDO and Zoning Applications for developments and subdivisions, does she review traffic information as part of her Township engineer responsibilities; and Ms. Fountain stated she does and she is responsible for making sure that the aspects of the requirements in the Subdivision and Land Development Ordinance in regard to traffic impact studies are complete or addressed. Mr. Truelove stated she has to look at those before she makes any recommendations to the applicable Township Board, and Ms. Fountain agreed.

Mr. Truelove asked Ms. Fountain if she is familiar with the Newtown Township SALDO traffic study requirements, and Ms. Fountain stated she is and she has a copy which was marked as Exhibit T-15.

Mr. VanLuvanee stated he would object in advance as he does not understand what possible relevance that has to do with this Application.

Mr. Truelove stated they are talking about developments that contribute to traffic in this area, and Newtown Township is a Party to this; and he feels they have an issue with regard to developments in Newtown Township that are already approved that contribute to the traffic, and how this may impact further on Newtown Township. Mr. Truelove stated the relevance is because the study area would be similar to what was heard in the supplemental information that is referenced in the Lower Makefield Township Traffic Impact Study information that he asked Mr. Angelastro about earlier because there are other issues to consider; and in this particular case, the study area and contributing traffic would include what is in Newtown Township, and this is a foundation to demonstrate where those areas are. He stated they cannot consider a location on the border of Newtown Township and assume that Newtown Township either does not have an interest or there is no contribution by that, and they have to lay a foundation to show that the study area is relevant.

Mr. VanLuvanee stated there is background growth that all traffic engineers take into consideration, and he feels the real question ultimately for the Board to consider is what Lower Makefield's Ordinance requires and what the relevant study area is, bearing in mind that there was no requirement for submission of a traffic impact study in connection with the Special Exception. He stated it is not a question of whether they did or did not do what the Ordinance required initially. He stated they did submit an impact analysis which is "fair game" for discussion. He stated there is background growth taken into consideration, and he fails to see how what Newtown's requirements are is relevant and he fails to see how a traffic study done for another project is relevant to this Application.

Mr. Koopman stated they are not here to look at Lower Makefield or Newtown's traffic impact Ordinances, but are looking at the general question as to whether this development will have an adverse effect on traffic in the area and whatever relates to that is relevant to the Board including developments in Newtown and this is something they would want to take into account in determining what may have an effect on traffic in this general area.

Mr. Toadvine stated while he would agree, he is confused as to the relevancy of introducing their Ordinance into the record. Mr. Smolow stated the relevancy of their Ordinance is to show the Zoning Hearing Board what the likely impact will be of development in the adjoining Municipality. He stated if that Municipality has a Code that is more liberal than Lower Makefield's for traffic considerations, that will impact the background traffic conditions at this location. If it is less liberal and more strict, the Board would want to know this and you would expect less traffic growth. He stated their Ordinance is relevant to the Board for the Board to understand what the conditions are and what the conditions are likely to be at this location.

Mr. Truelove stated one of the considerations for Special Exception is reference to the Lower Makefield Township Comprehensive Plan; and in the Comprehensive Plan which he believes is in evidence, it indicates "the Master Plan examines the planning and zoning policies in surrounding communities and has set goals of working with surrounding areas on the issue of regional transportation." He stated if you look at Exhibit A-24, the Traffic Impact Study Requirements, there are references about the local area. He stated the local area would include the adjoining Township. He stated they have already discussed tonight how the largest amount of traffic they are considering in this area is eastbound on Route 332 which comes from Newtown Township so he feels this is a commonsense approach.

Mr. Toadvine stated he still does not understand how Newtown's Ordinance impacts this Application. He stated they do understand that this witness can testify as to the developments in Newtown and they have already gone through that, but their Ordinance does not impact this Application.

Mr. Truelove stated it impacts it in the sense that if a study area referenced in Newtown Township would include developments that they are concerned about contributing to traffic, he must establish a foundation as to why several developments, which Ms. Fountain will testify to, will have a traffic impact. He stated Lockheed Martin is adjacent to this parcel; and if they have to consider an expansion of Lockheed Martin, he feels Ms. Fountain would testify that these other developments have to be considered. He stated it would not make sense that they cannot discuss what Newtown Township says about a development that is right on the border of the same development they are discussing this evening.

Mr. Koopman stated if this was an analysis of a Subdivision and Land Development Application, Mr. Toadvine would be correct; but this is an analysis as to whether this Application is going to have an adverse impact upon traffic and this opens up a broad range of issues including the issue as to what Newtown or other adjoining Municipalities may feel is relevant to be taken into account in determining whether there is an adverse impact or not. He stated there will be testimony concerning developments that are more than a half mile away from the site that are in Newtown Township. Mr. Toadvine stated they have already heard this testimony. Mr. Koopman stated this is background for that and is general testimony. He stated they are not tied down to a half mile radius in this Zoning Hearing Board proceeding, and they are discussing what is generally considered relevant to the determination as to whether there is going to be an adverse impact; and anything that is relevant to that, the Zoning Hearing Board should be listening to. Mr. Toadvine stated he agrees with that, but the question is the Ordinance. Mr. Koopman stated the Ordinance is the Zoning Ordinance of Lower Makefield Township and that has no particular standard in it. He stated the only standard is whether it will have an adverse effect upon traffic so whatever bears upon that, the Board should be listening to. Mr. Toadvine stated they have the Lower Makefield Township SALDO; and Mr. Koopman stated while they do have this, it does not necessarily control what the Zoning Hearing Board should be listening to in terms of a Zoning Hearing Board Application and the general question of adverse impact is broader than that.

Mr. Toadvine stated he is asking how the Ordinance leads the Zoning Hearing Board to come to a conclusion about this development. Mr. Truelove stated it does not per se, but what it does is establish why Newtown Township looks at these other developments and on their community concerns which are incorporated into the Comprehensive Master Plan. Mr. Koopman stated the offer of proof of why they should be looking at Newtown is that the Newtown Ordinance suggests that it is appropriate to look at least one mile away and in some instances more than that; and this is something that will impact upon Ms. Fountain's testimony since some of the developments may be more than a half mile away but will still have a significant impact upon this particular intersection because all

of these roads feed into this major intersection of I-95 so what will impact that intersection is something the Board should take into account. Mr. Toadvine stated they are taking this into account. Mr. Koopman stated he feels they should take into consideration what is generally reasonable to consider in determining whether there will be an adverse impact.

Mr. VanLuvanee stated the Board has already accepted testimony with respect to other developments. He stated with respect to the traffic impact this is a subject for expert testimony, and they have had the Township's traffic engineer and they have had the Applicant's traffic engineer and the Board can consider this.

Mr. Koopman stated the Applicant's traffic report analysis looked at a very narrow scope of development impact which he feels Mr. Truelove is suggesting, and Newtown agrees, is that what was looked at by the Applicant's expert was much narrower than should have been looked at in accordance with reasonable traffic impact analysis; and this is what Ms. Fountain's testimony will bear upon. Mr. VanLuvanee stated that depends on whether or not the background growth takes than into account or does not, and this is something the Board is going to have to decide.

Mr. Gruen suggested that they hear the testimony and decide whether or not it is relevant. Mr. Malinowski stated he does not feel the Newtown Township Ordinance is relevant to this. Mr. Gruen stated he feels it is because it determines the amount of traffic that flows into this intersection. Mr. Malinowski stated the Ordinance does not do that. Mr. Kim stated when Mr. Majewski was introducing the growth of Newtown, the Board discounted his expertise because he was not part of Newtown Township, and they asked for specific Zoning expertise from Newtown to come to the meeting. He stated Ms. Fountain is not an expert in traffic although she is aware of the traffic study. He stated if they want to pursue this, Newtown should produce a traffic expert to talk about traffic and how it effects Lower Makefield and then they could consider whether this is relevant. Mr. Truelove stated it was his recollection that it was recommended that they have the Newtown Township engineer come in to talk about this issue. He stated he is trying to answer the question as to why they are considering certain developments, and the answer would be that Newtown has a study area requirement. Mr. Kim stated she can talk about development because that subject was open, but he does have a problem with her discussing traffic as an expert witness. Mr. Truelove stated she is not being offered for that purpose. Mr. Toadvine stated she can answer those questions without having the Ordinance part of the record. Mr. Truelove stated he was concerned that at some point someone would ask why they were looking at certain developments, and Mr. Toadvine stated she will indicate that it is in the Ordinance. Mr. Koopman stated he feels they should therefore let it in. Mr. Malinowski moved not to let it into the record.

Mr. Truelove asked Ms. Fountain if she reviewed the testimony of Mr. Gallo, and Ms. Fountain stated she has. Mr. Truelove asked if she is familiar with the proposed Frankford Hospital project, and Ms. Fountain stated she has looked at the Plans. Mr. Truelove asked in her review of Mr. Gallo's testimony did she conclude that there were some developments that were not completely discussed as part of his review, and Ms. Fountain stated she did conclude this and she has prepared an Exhibit that demonstrates the number of developments that should be considered as part of the traffic impact in this area.

Mr. VanLuvanee objected, and Mr. Truelove agreed to rephrase as follows: He asked if she has prepared an Exhibit which includes the developments that should have been included in Mr. Gallo's testimony. Mr. VanLuvanee objected to the form of the question. He stated it should just be testimony with respect to developments and not whether they should or should not have been included in Mr. Gallo's testimony. Mr. Truelove asked Ms. Fountain if she has an Exhibit showing the developments in Newtown Township including location, square footage in the case of non-Residential developments, and number of units for Residential projects, and she stated she does. This document was marked as Exhibit T-15 which is a map of Newtown Township with numbers 1 through 23. In the lower right hand corner where Newtown Township and Lower Makefield Township intersect, there is a red dot which shows the proposed location for Frankford Hospital. Ms. Fountain stated she also has a separate table identifying numbers 1 through 23 and this document was marked as Exhibit T-16.

Ms. Fountain identified the following from the map:

- Item #1 – Delancey Court – 120 Residential Units
- Item #2 – Villas at Newtown – 172 Age Restricted Residential Units
- Item #3 – Newtown Walk – 102 Residential Units
- Item #4 – Melsky Tract – Proposed Residential 45 Single-Family Units
- Item #5 – Fox Hollow Estates – 18 Residential Units
- Item #6 – Linten Hill Chase – 35 Single-Family Residential Dwellings
- Item #7 – DeLuca Corporation – 50,850 square feet
- Item #8 – Newtown Industrial Building – Renovation of Existing Building for Offices and Medical Offices totaling 34,382 square feet
- Item #9 – Penns Terrace Office Building – 20,000 square feet
- Item #10 – Blacksmith LLC – 25,296 square feet of Office Space
- Item #11 – First Evergreen – Includes 119,636 square feet of Existing Office and a Proposed Medical Office Building of 32,000 square feet
- Item #12 – Johnson, Kendall, Johnson – 19,327 square feet – 11,820 square feet is an Existing Building
- Item #13 – Penns Trail Storage of Newtown – Storage Facility totaling 63,180 square feet

- Item #14 – Grainhouse Developers – 47,819 square feet. Renovation of Existing Building 15,000 square feet of which is Proposed Office and Remaining 32,819 square feet will be Warehouse
- Item #15 – Harold Beck & Sons – 66,733 square feet Existing Building and Proposing 24,330 square foot Addition
- Item #16 – Lithos – Existing 25,020 square foot Office Building and Proposed 35,700 square foot Office Building
- Item #17 – Lots #54 and #55 – 170 Pheasant Run – Proposed Three-Story Office Building of 26,000 square feet
- Item #18 – Silver Lake Executive Campus – Two Office Buildings Totaling 156,852 square feet and a 4,125 square foot Cafeteria
- Item #19 – Goodnoe’s Corner – Four Apartments Totaling 5,500 square feet and Retail Space Totaling 30,270 square feet
- Item #20 – Tudor Square Phase III – Proposed 45,456 square foot Office Building
- Item #21 – Homewood Suites – Proposed Office of 65,048 square feet, Bank of 3,300 square feet, Café of 2,900 square feet, and 120 Room Hotel and Conference Center Totaling 100,000 square feet
- Item #22 – Cricklewood Green – Two Existing Office Buildings Totaling 53,800 square feet and currently under construction is a Two-Story Office Building Totaling 27,827 square feet and Two Future Buildings, one Three-Story of 39,665 square feet and one Two-Story of 22,186 square feet
- Item #23 – Lockheed Martin – Existing Research Use on the Site with Buildings Totaling 417,909 square feet and they are proposing a Three-Story Office Building Totaling 115,410 square feet and a Two-Story Office Building Totaling 76,940 square feet, a Conference Center of 16,616 Square Feet, and an Addition to an Existing Building that will be used for Research Use of 19,045 square feet.

Mr. Truelove asked about Newtown Office Park, and Ms. Fountain stated the list she has is a list of recently-approved, recently-completed, or developments under construction. She stated the Newtown Office Park is an older development. Mr. Truelove asked if all of the developments she has referenced have been approved, and Ms. Fountain stated the Lockheed Martin site contains existing buildings and they recently submitted a Land Development Plan for the proposed three-story and two-story office and Conference Center. She also stated with regard to Cricklewood Green there is a proposed building under construction and there is a future phase that has not received Final Approval. Mr. Truelove stated she has also listed the occupancy rate for difference developments as well, and Ms. Fountain stated this information is accurate as of two weeks ago.

Mr. Kim asked when Newtown Township makes decisions on these developments, does Newtown Township request development plans from Lower Makefield. He stated he asked this of the Newtown Zoning Officer, who indicated he had not had a case where the Lower Makefield Development Plan was introduced as part of the overall scope. Ms. Fountain stated in some cases it is. She noted the Silver Lake Executive Campus (#18 on the Plan) which was a Plan which was recently submitted, and they had asked that the Traffic Impact Study be submitted to Middletown Township because they felt this development would affect their Township as well. Mr. Kim noted the Lockheed Martin portion which has not been approved which is one of the largest projects and asked if they will ask that the Traffic Study consider Lower Makefield. Ms. Kim asked if the question is will their Traffic Impact Study be submitted to Lower Makefield for review, and Mr. Kim stated it is; and Ms. Fountain stated most likely it will be submitted to Lower Makefield.

Mr. VanLuvanee stated the handout is difficult to read because of the size of the type face, and it was agreed by Ms. Fountain that she would provide something more readable.

Mr. VanLuvanee asked if all of the projects with the exception of Lockheed Martin were given Conditional Final Approval or are there still some Preliminaries. He stated it appears that Penns Trail Storage, #13, has a Conditional Preliminary but not a Final. Ms. Fountain agreed this is correct as well as Lithos #16 which is also Conditional Preliminary. She also noted Silver Lake Executive Campus.

Mr. VanLuvanee asked which projects have not yet been started, and Ms. Fountain noted the following: Melsky (#4), DeLuca (#7), First Evergreen (#11), Penns Trail Storage (#13), Harold Beck & Sons ((#15), Lithos (#16), Lots #54 and #55 (#17), Silver Lake Executive Campus (#18), Cricklewood Green Future Phases (#22), and Lockheed Martin (#23).

Mr. VanLuvanee stated some of these approvals appear to be 2008 approvals, and Ms. Fountain agreed.

Mr. Koopman asked if the Lockheed Martin project requires a traffic study, and Ms. Fountain stated it would. Mr. Koopman asked if that traffic study would be required to take into account development in adjoining Lower Makefield Township, and Ms. Fountain stated it would. Mr. Koopman asked for what distance, and Ms. Fountain stated the Newtown Township Traffic Impact Study requirements in the Subdivision and Land Development Ordinance references the term, “study area;” however, that term is not described or defined in the SALDO. Mr. Koopman asked how it is interpreted, and Ms. Fountain stated it is generally interpreted as that area of the surrounding site where there are intersections in all directions and any trouble spots in the Township.

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Mr. Koopman asked if this would include the same type of intersection and development in Lower Makefield Township for the Lockheed Martin development, and Ms. Fountain stated it would.

Mr. Truelove moved admission of Exhibits T-13 through T-16, and this was acceptable. Mr. Koopman stated they will submit T-16 with larger type and also list the numbers that correspond to the development.

It was agreed to continue the matter to June 16 at 7:00 p.m.

Mr. Bamburak moved, Mr. Kim seconded and it was unanimously carried to adjourn the meeting at 10:15 p.m.

Respectfully Submitted,

David Malinowski, Chairman