

A REVIEW OF THE STUDY METHODOLOGY

November, 18, 2003

Buckingham Township Board of Supervisors

The information contained herein represents Buckingham's continuing critique of the studies, impact statements and supporting documentation for the US Route 202 Expressway.

1. THE DVRPC MANIPULATED THE STUDY DATA

Buckingham had long suspected that the traffic projections used to support the expressway project had been modified. This belief came from the simple reality that there were obvious and extreme errors in the DEIS and the supporting supplements that the township recognized that no modern computer modeling program could or would produce without improper human intervention.

The DVRPC repeatedly and vigorously denied that this was true and maintained that the published data was the result of the projections generated by its computer trip assignment programs.¹ It had been Buckingham's assumption that it was the input data that was being manipulated prior to running the computer traffic assignment program and we must admit that we were as stunned as the general public to learn that they actually had the nerve to just change the program's output.

The manipulations were discovered only because the federal judge hearing the case ordered the DVRPC to give Buckingham the underlying data for Supplement Four in November of 1999. The DVRPC responded in December of 1999 by presenting the court and the township with over 20,000 pages of useless computer printouts. The judge did not see the humor in this stunt and ordered the DVRPC to turn over the requested data in digital form as well as the Tranplan program itself to Buckingham.

This material was delivered in March of 2000 and was accompanied by an affidavit from Thabet Zakaria of the DVRPC who, recognizing that Buckingham would now be able to reproduce Supplement Four and would instantly see that virtually none of the computer output would match what was published, admitted that the volumes on nearly 80% of the links had been manually modified. Further, Zakaria verified that "The computer simulated traffic for the 1990 study and for Supplements 1, 2, and 3 were not kept and

¹Initially, the agency used the mainframe based UTPS/PLANPAC program which was migrated to the minicomputer based UTPS/ROAD in 1990. The DVRPC switched to the PC based Tranplan program running under OS2 in 1996 which generated the base values for Supplement Four of the Section 700 studies. It is important to note that Tranplan is not a complex modern traffic modeling program as it has been portrayed, but is rather a relatively primitive and simplistic trip assignment program.

are no longer available.” The lack of this data makes it conveniently impossible to verify the integrity of the entirety of the Section 700 studies.

Relative to the data manipulation by the DVRPC:

- A. The changes were made arbitrarily and are not documented in the Administrative Record. No one knew that they had been made until they were exposed by Buckingham.
- B. There is no documentation in any part of the Administrative Record or in any of the DVRPC procedural documents that indicates that extensive manual manipulation of the computer output is an accepted and/or general operating procedure of the agency.
- C. The changes were made in isolation. Changes on one segment did not induce changes on any other segment. This is illogical and fundamentally contradicts the operation of their own transportation modeling process.
- D. There are now indications that such manual changes were not limited to Supplement Four but were pervasive throughout the entire study. (Please see the discussion on PA 152 / US 202.)
- E. There is a real and justifiable concern that arbitrary manual manipulations are prevalent throughout all DVRPC studies in the region. If so, many, if not all the traffic studies maybe inaccurate, insupportable and in violation of a variety of federal statutes. (This may explain why the agency tried so desperately to prevent Buckingham from gaining access to the data.)²

2. NONEXISTENT LANES WERE ADDED

The DVRPC has now admitted that they arbitrarily added nonexistent lanes to their trip assignment programs. In simplistic terms, they turned many two lane roads into four lane roads for the purposes of assigning traffic. In court documents, the DVRPC justified this action as a method to correct for known failures in their modeling process when they found that their computer program was underestimating the capacity of suburban and rural roads. To correct for this deficiency, they chose to assign the number of lanes

²There appear to be gross incongruities between the Section 600 and 700 studies which should have produced very similar results given that the traffic projections originated from same basic data set and that the time frame for the two studies was very similar. It is beyond the township’s scope of study to examine the critical relationship between the two studies, but it is an area of concern that merits special consideration.

based on the number of lanes at the nearest intersection which increases the “apparent” capacity of the road.

However, there is no indication that this process was ever calibrated or that its accuracy was ever confirmed. In fact, in reviewing the “Travel Forecasting Process of the Delaware Valley Regional Planning Commission” (April 1998), which is a rather detailed explanation of the DVRP’s methodology, there is no documentation that it was even done. If Buckingham had not gained access to Tranplan it is likely that no one would have ever known that the DVRPC was inappropriately adding lanes to increase the statistical capacity of the roads.

3. A FOCUSED STUDY WAS NOT DONE

The DVRPC had claimed that Supplement Four was a focused study, which by their definition included adding more roads into the network and dividing the large regional zones into smaller, more accurate units. By their statements, the intent of this process was to get a more accurate picture of the impact of the expressway on Section 800 communities. (DVRPC - Walker Affidavits)

They have now admitted that no focused study was done for Supplement Four. This study did not include any additional zonal splits which results in both a significant undercounting and misallocation of traffic. In addition, only a very limited number of roads were added to the network. Critical links that were omitted include Street Road in Lahaska and both North and Court Streets in Doylestown. (DVRPC - Zakaria Affidavit).

The quality of this study was seriously questioned by two traffic experts retained by the township. Both expressed concern that the results of this study are so lacking in detail and accuracy as to render it valueless. Both consultants found it extremely troubling that the DVRPC chose to misrepresent the nature of their study rather than to conduct it properly when such studies are well within the capability of the agency.

4. INFORMATION WAS WITHHELD

PennDOT and DVRPC made every effort to prevent Buckingham from gaining access to information that would have allowed the township and the public to evaluate the impact of the expressway on the Central Bucks community. The following comprise but a few of the many examples:

- Buckingham was not allowed to attend meetings held in public buildings with public officials concerning the expressway.
- PennDOT and DVRPC subjected the township to a constant game of “We don’t have the information, they do”, which finally culminated in Andy Warren’s famous letter of July 30, 1997 where he said, “Information such as that, even if available

would not be released for your use.” As a result, the township was forced to file suit under the Freedom of Information Act (FOIA) on multiple occasions to gain access to documents, including those that Mr. Warren said were not available. In all cases, the information was released to the township just before the court was to act on the FOIA request. In this manner they were able to delay releasing the information for months at a time.

- Extensive information was presented by PennDOT and the DVRPC at a meeting of municipal officials in January of 1997. Buckingham requested copies of what had been presented and was refused. It took the good efforts of former State Senator David Heckler and three months to gain access to the information.
- PennDOT and DVRPC denied the existence of and then withheld Supplement Four for eight months until the release of the FEIS despite a Freedom of Information request for same.
- In the fall of 1999 Buckingham requested specific information during a public meeting at the township building with PennDOT representatives relative to Pool’s Corner. The requested information which included such basic items as accident history, level of service and capacity, though promised, was never received. Repeated written and verbal requests for same have never even been acknowledged.³
- PennDOT, FHWA and the DVRPC thumbed their noses at the Federal courts by providing court ordered information on over 20,000 pages of useless computer printouts. The information was finally released to Buckingham in digital form after a second court order and under the threat of a contempt citation.

5. CRITICAL DATA WAS DESTROYED

The DVRPC has admitted that basic data underlying the Section 700 studies has been destroyed in violation of all scientific standards. There is substantial case law that requires the utilization of state-of-the-practice methodologies. Obviously, losing data and being unable to reproduce verifiable results is not the state-of-the-practice in any industry. (DVRPC - Zakaria Affidavit and Walker Deposition)

Further, the DVRPC has admitted that Supplement Four was based not on new information but rather on that which was used in Supplement Three. Conveniently, this is the data that is “lost” so there is no way to verify the accuracy of their input. (DVRPC - Zakaria Affidavit and Walker Deposition)

³ The Pool’s Corner project is listed as a Safety and Mobility Project. With that in mind, it is interesting to note that at this meeting, Tom Stevenson, PennDOT’s project manager for the Pool’s Corner project for at least three years, admitted that he had no idea what the accident history of the intersection was. Additionally, he admitted that he did not know where the Cross Keys intersection was or what the projected impact of the expansion of Pool’s Corner might be on that intersection.

The claim of “lost data” generates serious questions concerning the integrity of the DVRPC. The DVRPC claimed that the data was destroyed during the transition from utilizing mainframe and minicomputers to the current PC based systems. (DVRPC - Walker Deposition) This is incongruous in that the data was required to produce Supplement Four which utilized Tranplan, their PC based system. If the data had indeed been lost prior to the conversion to PCs, then Supplement Four could not have been produced. Since Supplement Four is a direct result of questions raised by Buckingham, one must wonder why they chose to destroy the data once Supplement Four was complete.

6. THE PROJECT WAS IMPROPERLY SCOPED

The designated Study Area was purposefully defined to exclude Buckingham and Solebury. This is clearly indicated from the minutes of the US 202 Public Officials Meeting held on December 6, 1990. At this meeting, Mr. Stephen Lester, District Engineer for PennDOT District Six was recorded as saying,

“some of the most vehement opposition to the US 202 project has come from residents on the north side of Doylestown. What the Department did not want to do was have people from other sections of the project area decide what was going to happen in adjacent sections of the study area.” (1990 Meeting Minutes)

To make certain that Buckingham and Solebury were excluded from the process, the study area was defined to end on an open stretch of road in the middle of the existing 202 Bypass. Buckingham and many others have taken exception to the selection of this location and feel that from a planning perspective, the proper termination of Section 700 should be at Pool’s Corner. This perspective is even shared by PennDOT’s project engineer for Pool’s Corner, Tim Stevenson, who acknowledged during the 1999 public meeting held in Buckingham that the true end of the Section 700 expressway project was PA 313.

Further, the study area does not extend above existing 202. This eliminated any possible northern routes as potential alternatives and made it impossible to evaluate the impact of the expressway (or other alternatives) on the high growth areas to the north. Interestingly, the “preferred alternative”, the expressway, just happens to be positioned in the dead center of the study area. Whether this is a coincidence or a predisposition towards the expressway is a question that remains unanswered.

7. THE SOCIOECONOMIC BASIS OF THE STUDY WAS FATALLY FLAWED

POPULATION

The DVRPC population estimates used for the Section 700 studies were grossly in error. Population levels are directly related to transportation needs and by underestimating the population the DVRPC also underestimated the number of vehicles that will use all of the facilities in the corridor. Please note that:

- Buckingham's 2018 projected population was exceeded in 2002.
- Montgomery Township's 2018 projected population was exceeded in 1996.

- Plumstead's projected 2018 population was exceeded in 1997 and is now projected by the DVRPC to be 100% higher than originally estimated.

Buckingham has taken issue with the population projections utilized in this project since the outset. DVRPC has consistently responded that our concerns were unfounded and that their data was accurate. However, in November of 1999, we were able to obtain a copy of the new DVRPC Municipal Population and Employment projections that was marked as the "Confidential Final Draft".

This document indicated that the original projection of 17,227 for Buckingham's 2018 population as utilized in the Section 700 FEIS was now projected by the DVRPC to be approximately 23,270, as interpolated from the difference between 2015 and 2020 projections. This represents a 34% increase. Dramatic changes in other municipalities were noted as well and the new projections indicate the following:

- A. DVRPC's population estimate errors for the Section 700 FEIS are not confined to Buckingham but in fact are pervasive throughout the region. The illustration below indicates a 57% change in those municipalities that represent the termini of the expressway.

	FEIS Projections (2018)	New Projections (2020)
Buckingham	17,227	24,520
Plumstead	7,240	15,630
Solebury	9,469	12,570
Montgomery Twp.	17,019	27,400
Total	50,955	80,120

Although the 2018 projections are likely to be somewhat lower (approximately 3.5% for a 2018 population of 77,315 people), there is still an enormous difference between the projections used for the Section 700 studies and those

that were generated in November of 1999. In fact, the difference is so extreme that it is the equivalent of adding a new municipality that equals the combined population to Doylestown Borough, New Britain Township, New Britain Borough and Chalfont to the study area!

- B. In Supplement #4, DVRPC attempted to negate Buckingham’s claims that errors in population projections would lead to overcrowded conditions. To illustrate their point, they created a worst case scenario and applied a 12,000 person surcharge to the Section 800 municipalities of Buckingham, Solebury and Plumstead. Even this surcharge was exceeded by over 40% in the DVRPC's November 1999 projections.

When Buckingham raised this issue in January 2000, DVRPC responded by simply issuing new projections in February of 2000 that lowered the population estimates for Buckingham, Solebury and Plumstead. Interestingly, the projected county wide population total did not change and remained constant at 722,230.

	<i>Year 2020 Original Projections (11/99)</i>	<i>Year 2020 Revised Projections (2/00)</i>
Buckingham	24,520	20,230
Plumstead	15,630	14,640
Solebury	12,570	11,050
Total	52,720	45,920

By lowering the population projections for the three municipalities DVRPC was able to claim in court that the surcharge that they had applied in Supplement Four had not been exceeded. However, in doing so, they ignored the reality that the only way that Buckingham's projected 2020 population could be accurate is if the township does not approve ANY NEW HOUSES FOR THE NEXT 20 YEARS.

This is illustrated by the fact that the township's year 2002 population will be approximately 17,300. Currently, 1,197 new homes have received preliminary and/or final approval (807 single family and 390 multi-family units). Utilizing DVRPC standards, these units will generate 3,081 new residents. When added to the 17,300 existing residents Buckingham will have a population of 20,381 people which is already higher than the DVRPC projection for the year 2020. *(Please note, the township will gladly accept DVRPC's 2020 projections if accompanied by legislation that states that a municipality has fulfilled its fair share obligation once its population has exceeded the projections of the MPO for the region.)*

- C. Even the February 2000 population projections appear to be in error. DVRPC has listed Buckingham's year 2000 population as 15,220. However, the Bucks County Planning Commission published their 1998 estimates almost 18 months earlier at which time they had listed Buckingham's 1998 population at 15,943. One must wonder why the DVRPC, which theoretically consults with the county planning organizations and certainly had access to BCPC numbers, would suggest a population figure that is so obviously in conflict with available data. ⁴

EMPLOYMENT

Although a full analysis needs to be done, it is apparent that the DVRPC significantly underestimated the employment projections (a leading generator of traffic) when preparing the Section 700 data. To illustrate, the Section 700 FEIS assumes an employment figure of 17,801 for Montgomeryville in the 2018 Design Year whereas the DVRPC is now predicating a 2020 employment figure of 28,000. Obviously, this represents an enormous increase in AADT's that were not accounted for properly.

COMMERCIAL

The DVRPC commercial growth estimates are grossly inaccurate. Given that there is a direct correlation between commercial growth and the number of trips generated, underestimating commercial growth results in underestimating the number of trips that will use the facilities in the corridor.

- A. The DVRPC did not include any new commercial development in Warrington when in fact over 1,000,000 sq. ft. will have been added by 2001.
- B. The DVRPC underestimated the commercial growth in Montgomery Township by over 1,250,000 sq. ft.
- C. The DVRPC did not incorporate any new commercial development on US 202 in Chalfont or New Britain.

To illustrate the impact of commercial development on traffic projections, the new ACME and expansion of Genuardi's on 202 in New Britain will generate more **NEW** trips on 202 than the expressway is projected to relieve. *(Based on ITE Trip Tables)*

To be very clear, the entire claimed benefit of the \$250 million expressway is negated by two, relatively small scale commercial developments.

⁴ It is interesting to note that despite the DVRPC's very harsh criticism of Buckingham's methodology and results in estimating population, the population projections that Buckingham did in 1996 for the DEIS were within 50 people of those of the 1998 BCPC figures (BT - 15,893 vs. BCPC - 15,943).

INDUCED TRAFFIC AND INDUCED GROWTH

There are substantial and credible scientific studies that indicate that new road construction can be a major stimulant of both induced traffic and induced growth. This phenomenon has been studied extensively in both the United States and Europe with similar results. The conclusions drawn in the US based studies conducted by Robert B. Noland of the US Environmental Protection Agency as well as the definitive work by Hansen and Huang in California mirror those of the 1994 SACTRA Report in the United Kingdom that lead to a radical rethinking of highway construction in Europe. Whether induced traffic and/or induced growth occurs is certainly dependent on the particular situation. However, when new highway construction offers vastly improved access to desirable locales and provides a realistic alternative to existing congested and expensive transportation routes both induced traffic and induced growth are almost certain to occur.

In the case of US 202, the DVRPC, PennDOT, FHWA and many local leaders have argued that induced traffic and/or induced growth is not a factor that should be considered.⁵ However, a simple look at the traffic projections used to approve the expressway reveals that PennDOT and the DVRPC knew (or should have known) that induced traffic and growth were a predictable outcome of this project. In fact, if there is no induced traffic or growth there are not enough cars to justify the cost of the project.

Consider that the primary “stated” goal of the project is to relieve traffic on parallel roadways. By comparing the Build versus the No Build scenarios one can easily see how many trips the expressway theoretically relieves from the parallel roads. Between PA 309 and County Line Road those numbers are:

US 202	8,700
Upper State	8,400
Stump	4,100
Kenas	2,300
Lower State	<u>7,400</u>
Total	30,900

⁵Warrington supervisors insisted that the interchange at PA152 be removed before they would support the expressway project specifically because they did not want to induce growth in their township. It does not appear that anyone told them that induced growth was a fantasy or that “they will come whether you build the interchange or not”. Those arguments were reserved for later use against Buckingham, Plumstead and Solebury and interestingly have been made by Warrington supervisors among others.

Between the PA309 and County Line Road interchanges the expressway is projected to carry 55,400 trips.

Expressway	55,400
Diverted Trips	<u>-30,900</u>
New trips	24,500

As can be seen, the new trips equal approximately 44% of the total volume on the expressway. This scenario repeats itself at various stages along the expressway and is most severe between PA 611 and Bristol Road. At this location the new trips equal 26,900 while the diverted trips equal 18,300. In other words, almost 60% of the trips utilizing the expressway in this area are new.

This phenomenon was brought to the attention of PennDOT in 1996 and their response was that our analysis was incorrect and that only 5% of the traffic was induced and that the expressway was drawing from other parallel roadways. They refused to identify which roadways were feeding the expressway nor could they answer how these cars were getting to the expressway since neither County Line Road or Bristol Road (the feeder roads to the expressway) showed the increase in volume that would be required for the cars to get on the expressway.

Since approximately 25,000 cars have to get on somewhere to use the expressway and they are not using the two feeder roads, there are but three options in whole or in combination:

1. The volumes on the expressway were artificially increased to make the project viable for federal funding. This is a federal crime.
2. The new trips are entering Section 700 from Section 600 of US 202. This is the very definition of induced traffic. If this is the case, then it is reasonable to assume that many of these trips will have destinations that take them through Pool's Corner.
3. The trips are generated from new growth north of the expressway that utilizes the 611 corridor. Since these trips do not exist under the No Build scenario, this is the very definition of induced growth.

Please note that it is impossible to tell from the available data which option represents the real state of affairs. Massive manipulations to the computer output all along the PA 611 corridor have been admitted by the DVRPC, therefore rendering the published data useless.

For those that remain unconvinced that the expressway will generate additional traffic in the region please refer to Page ES-18 of the FEIS. Figure ES-12 on that page illustrates the relative traffic volumes of the various alternatives based on North-South and East-West screenline projections. In both cases, the New Alignment (the expressway) is

clearly shown to generate significantly more trips in the corridor than the No Build Alternative. By definition these are NEW trips that exist ONLY because of the expressway.

	<u>East-West</u>		<u>North-South</u>		<u>Combined N/S + E/W</u>
Expressway	93,600		218,200		
No Build	<u>- 69,100</u>		<u>- 189,000</u>		
New Trips	24,500	+	28,300	=	52,800

As you can see, DVRPC is projecting 52,800 new trips that are directly attributable to the expressway. These can only come from induced traffic and/or induced growth.

HIGHLIGHTS OF SPECIFIC PROBLEM AREAS

The New Hope Toll Bridge

There is a major discrepancy in the traffic volumes at this location. On page 49 of Supplement Four the DVRPC states;

“The bridge is projected to carry 14,046 vehicles per day under the No-Build Alternative and 14,171 vehicles per day under the Bypass Alternative, a 125 vehicle or 0.9 percent increase due to the proposed Bypass.”

The minimal increase reported by the DVRPC has been used repeatedly by PennDOT in an attempt to allay the fears of Section 800 residents by illustrating that the expressway will have virtually no impact on the communities of Solebury and New Hope.

However, a review of the Tranplan output for this location reveals that 23,198 cars were assigned to the bridge. This represents a difference of 9,152 vehicles or approximately 40% of the projected volume that is unaccounted for.

Street Road (Lahaska)

The intersection of Street Road and US 202 was left out of the study. This is a critical area for both Buckingham and Solebury given the enormous traffic volumes and problems currently associated with this intersection. Given that the DVRPC claimed to have done a “focused study”, which included adding additional roads to the study, the omission of Street Road is difficult to rationalize, especially when one recognizes that this area is the home of a major public safety resource (Midway Fire Company).

Bogart’s Tavern Road

The DVRPC has admitted that they “accidentally” assigned 13,964 trips to Bogart’s Tavern Road, a narrow, short, dead end street in the center of Buckingham Village. According to the DVRPC, Bogart’s Tavern Road is 5 lanes.

It is critical to note that the Bogart’s Tavern Road link was not shown on any of the maps published by the DVRPC for the expressway studies. Nobody knew it was even in the highway network until Buckingham ran the Tranplan program. By excluding it from the published maps the DVRPC was able to hide the dramatic impact of the expressway on Buckingham from the public as well as the local, state and federal officials responsible for deciding the project’s future.

As an interesting side note, the DVRPC has rerun Tranplan since the admission of this “error” in an attempt to defend their adding of fictitious lanes to many of the roads in the area. However, during this exercise they once again left the 13,964 trips on Bogart’s Tavern Road rendering their latest computer runs as useless as the original.

413 and 202

The importance of the vehicles on Bogart’s Tavern Road becomes obvious when one looks at the intersection of 413 and 202. With the vehicles diverted onto the nonexistent link, only 17,139 trips are reported by Tranplan, whereas if they had not been diverted, Tranplan would have shown 31,103 trips using the intersection. This volume is higher than that shown for Pool’s Corner, Cross Keys or 152/202 and enormous delays on both 202 and 413 would certainly result. A volume this high could not be shown to the public or to the reviewing agencies without attracting immediate attention and generating justifiable concern.

Centroid 949

Theoretically, every trip from every road should be taken into account. Obviously, this represents a monumental task that would be virtually impossible to achieve. In the alternative, traffic planners have developed the concept of centroids which can best be described as loading points for those trips that are generated from roads that are too small to be included as part of the highway network. In essence, centroids serve as a means of distributing trips for which it would be difficult or impossible to account.

Unfortunately, centroids can also be used to artificially route traffic and hide the impact of proposed construction. This is the case with Centroid 949.

This centroid encompasses the entire northern portion of Buckingham Township. As designed by the DVRPC, this centroid loads the bulk of its traffic onto US 202 at approximately the intersection of Burnt House Hill Road. Interestingly, of the 11,081 trips that are assigned to US 202:

9,524 (86%) are assigned to go north away from Pool's Corner
1,557 (14%) are assigned to go south towards Pool's Corner

Immediately, one notes that the vast majority of trips are being routed away from the most typical destinations (Doylestown and surrounding shopping areas) as well away from the new expressway. This is a direct contradiction of basic transportation planning principles which recognize that traffic in close proximity to new facilities will be drawn towards them as well as common sense which says that a lot more people from Buckingham are doing their routine shopping in Doylestown rather than New Hope or New Jersey.

Why is this Centroid so important?

1. By routing trips to the North they do not go through Pool's Corner thus reducing the theoretical traffic volume on that intersection.
2. Routing the trips away from their proper destinations created a multitude of problems that could not be resolved without seriously manipulating the study. That the DVRPC did so is evidence that they believed that no one would ever see the underlying data which would expose these manipulations. They were almost right. It took over a year and two orders from a federal judge to finally get them to release the information. When Buckingham was finally able to duplicate Supplement Four the following was noted relative to Centroid 949:
 - A. By adding Bogart's Tavern Road they were able to divert the traffic they had loaded onto US 202 North so that it did not show up at the intersection of 202/413.

- B. By routing the traffic away from Pool's Corner they prevented it from ever getting on PA 313. This explains why Tranplan reported fewer cars on PA 313 west of Pool's Corner in 2018 with the expressway than exist today. (This item will be discussed later in full detail.)

The Existing US 202 Bypass

For several years Buckingham has made reference to the "6,000 missing trips" on the existing 202 Bypass. These trips are of importance because they are headed directly to Pool's Corner and would have an enormous impact on the intersection. PennDOT took great pains to discredit the township's assertion and claimed that the cars are not missing but rather that they are probably assigned to cross roads that are part of the highway network that are not included on the published maps. This is not true.

Upon reviewing the output from Tranplan it becomes immediately obvious that there are no cross streets or other locations where the "missing" trips could have been assigned. Further, and more importantly, the DVRPC has now admitted, in court documents, that they manually reduced the number of trips on the existing Bypass from 35,961 to 29,900. (DVRPC - Zakaria Affidavit)

To put it plainly, the DVRPC admittedly altered the output of the computer and reduced the number of trips heading to Pool's Corner by 6,061.

Pool's Corner

Please note: A myriad of legal issues surround this intersection. They have filled hundreds of pages of briefs (which are obviously not very brief!) and involve some rather esoteric concepts such as categorical exclusions, logic termini, violations of the National Environmental Protection Act (NEPA), violations of the Clean Air Act, etc.. The complexities surrounding these legalities is beyond the scope of this report and will not be addressed

There is ample evidence that the DVRPC and/or PennDOT made an extraordinary effort to minimize the apparent impact of the expressway on Pool's Corner. From the north, they rerouted trips from Centroid 949 and from the south manually altered the output of the computer program to reduce the trips flowing to the intersection from the existing Bypass. Additionally, an internationally renowned traffic consultant retained by the township has forcefully criticized the methodology used by the DVRPC, in that their methods appear to have been purposefully designed to limit the number of trips that Tranplan could send through Pool's Corner. This is referred to as a capacity restraint, whereby trips that exceed the capacity of a link are assigned alternate routes by the computer program to avoid overloading the restrained link. (If it worked as well in real life as it does on the computer model, we would never have a traffic jam!)

The purpose of these measures was to show that Pool's Corner would not be impacted by the expressway. That the DVRPC knew full well that its "paper compliance" would fail in real life speaks volumes as to the degree of deception that has been utilized to marshal this project forward. Further, it is clear that the listed volume of 30,400 for Pool's Corner was a preordained outcome that was the result of a policy decision and that it does not realistically reflect conditions that this community can expect to see.

PennDOT has stated that "improvements" will be required at this intersection within 20 years whether the expressway is built or not. Predictably, most people hearing that statement assume that the intersection will work properly once the improvements are made and the expressway is constructed. **IT WILL NOT.**

Please recognize that PennDOT has never said that the intersection will work; they have simply let people assume that it will. In point of fact:

1. Pool's Corner fails if there is no expressway and no improvements are made. (No Build V/C Index 1.74 - Level of Service (LOS) = F)
2. Pool's Corner will be a functional intersection with the improvements if the expressway is not built. (Projected V/C Index .85 - LOS = C)
3. Pool's Corner will fail if the improvements are made and the expressway is built. (Projected V/C Index 1.68 LOS = F)

Why was 30,400 chosen as the golden number? It is the highest value that they could utilize and still produce a Build V/C ratio lower than that which was being shown in the No Build scenario. The 30,400 figure produces a V/C of 1.69 while the No Build produces a V/C of 1.74. Thus the Defendants could claim that the situation was "improved" as long as they ignored:

1. The fact that there is no statistical difference between the two figures.
2. The fact that they needed to add extra lanes to achieve a V/C of 1.69.
3. The fact that the intersection still fails.
4. The fact that expressway causes the "improved" intersection to fail. It works without the expressway but fails with it.
5. This is a predictable (and predicted, though undisclosed) impact and therefore requires consideration under NEPA.
6. The failure of DVRPC and PennDOT to disclose the real conditions at this intersection constitute a serious violation of the public trust.

The history of the Pool's Corner Project also betrays PennDOT's willingness to misrepresent the truth. The original project (circa 1990) involved the realignment of the ramps from the existing bypass onto State Street. All of the proposed construction was in Doylestown Township and Doylestown Borough. No work was proposed in Buckingham or to the intersection itself. The total cost of the project as listed in the 1992 Twelve Year Plan was \$1.2 million. Full design and construction plans were prepared and ready for implementation in October of 1996. These plans clearly show the limited scope of the project. It is critical to note that up to this point, PennDOT considered the Pool's Corner project, as originally designed, capable of handling the traffic generated by the expressway and stated so in the booklet "*A Briefing on the Project*" that was distributed at the US 202 Public Meeting in September of 1996.

In October of 1996, Buckingham strenuously objected to the obvious impact that the expressway would have on the Pool's Corner area. The original plans were apparently withdrawn and replaced with a vastly enlarged project that included expanding the intersection to 18 lanes and widening US 202 from the intersection to Mechanicsville Road. Buckingham found out about these changes inadvertently from our township engineer who happen to see them in the PennDOT offices while reviewing another project. Buckingham had not been informed of the nature or size of the project nor had the township been consulted in any manner regarding this intersection.

It is important to note that it was Buckingham that requested meetings on this project in 1997 and again in 1999. These are the only times that there has been any communication with PennDOT on this issue. There has been no cooperative effort, no request for or opportunity for input and no consideration of community needs. At the 1999 meeting, Buckingham requested specific information that the PennDOT employees said would be provided. The requested information included such basic information as traffic counts, LOS, accident history, etc.. Despite repeated letters and phone calls, this information was never forwarded.

The cost of this original project was estimated at \$1.2 million. The current estimate is \$4.2 million. Obviously, this is a different plan altogether though PennDOT has repeatedly claimed that the project is the same one that has been on the books for almost a decade. This claim is necessary because if they admit that it is a new project necessitated by the expressway, then they will have admitted that they have violated some of the most basic tenets of the NEPA legislation regarding the need to evaluate cumulative and secondary impacts.

In point of fact, the only similarity between what was proposed in 1990 and the current plan is the project's number. Documents are available that create a thorough paper trail of this project and include the original TIP, the original design drawings, the 1997 request to increase funding for the project and the allocation of Section 700 funds for the study and design of the "new" Pool's Corner.

As has been mentioned, the traffic volumes projected by Tranplan on PA 313 West of Pool's Corner for the year 2018 were lower than current counts. Tranplan projected 12,832 trips while machine counts done in 1997 showed 16,500 trips. Obviously, the DVRPC could not publish figures that said the traffic was going to go down so in the alternative they simply manually added trips to make the numbers appear reasonable. The same was also done for PA 313 East of Pool's Corner. Again, since no one was supposed to see the underlying data, who was to know the difference? These changes were not documented in any material presented to the reviewing agencies nor is there any reference to these changes in the Administrative Record as required by law. To illustrate:

	<u>313 East</u>	<u>313 West</u>	<u>E/W Total</u>
DVRPC Published Value	19,700	20,800	40,500
Tranplan Reported Value	- 14,947	- 12,832	- 27,779
Trips Added Manually	4,753	7,968	
Total Trips Added Manually			12,721

Amazingly, **NOT ONE** of these cars turns onto US 202 North or goes through the Cross Keys intersection. Even more curious is that most of these cars do not seem to go anywhere since the only intersecting road in the highway matrix is Cold Spring Creamery where approximately 3,000 cars were added manually. It appears that the only place that the cars could be going is to the Fonthill. Consider the following quote from Page XIII-234 of the FEIS:

“The Highway Assignment program produces the forecasted traffic volumes for individual highway links that are required for the evaluation of each Alternative. The model assigns the trips to the best (minimum time) route through the network taking into account the capacity restraint of each roadway. Consequently, increased traffic volumes assigned to a particular route would reflect a comparable relief to other routes.”

Based on the above, the obvious question becomes which roadways saw relief when over 12,000 trips were manually added to PA 313? As far as we can tell, the answer is none. Also, note that it clearly states that, “The Highway Assignment program produces the forecasted traffic volumes...” It does not say that the DVRPC analyst produces the forecasted traffic volumes nor does it say that the Highway Assignment program produces the traffic volumes and the DVRPC analyst changes those that he does not like.

Court and North Street

Both streets were left out of the highway network, effectively hiding the impact of the increased traffic on Doylestown Borough. The intentional nature of this action is clear when one recognizes that Cold Spring Creamery, a direct extension of North Street, is included in the matrix but North Street is not.

Cross Keys

The Cross Keys intersection currently fails miserably and is considered by many to be one of the most problematic intersections in the area. The defendants acknowledged that the intersection fails and that there are no plans to upgrade this facility in their 6/30/00 response to the federal court.

However, Tranplan, utilizing the data provided by the DVRPC, indicates that this intersection will magically transform itself from being at nearly double its capacity to operating at 72% of capacity in 2018 without any additional construction and despite the inherent growth and the additional volume generated by the expressway.

The reason that this occurs is that the DVRPC artificially increased the number of lanes and turned the road (on paper) into four lanes. This clearly illustrates the invalidity of their argument that they were justified turning two lane roads into four lanes for the purposes of correcting errors in their computer program.

611 Bypass (North of PA 313)

This road is an existing four lane divided highway (two lanes in each direction). The DVRPC has traffic going in both directions on both sets of lanes. This is not a major error in terms of traffic volume but is certainly indicative of incredibly poor trade craft.

Ground Zero - PA 152 & US 202

With the expressway, the intersection of PA 152 and US 202 will fail at functionally the same level as exists today. A review of Tranplan shows a current V/C Index of 2.02 and a year 2018 V/C Index of 1.82 under the New Alignment Alternative. In both situations the intersection will be rated as an F and will be perceived by politicians, traffic engineers and the public alike to be in a state of total failure.

It is important to be perfectly clear: The output from Tranplan shows that the same conditions that are spurring the desire for the expressway will exist again even after it is built. Perhaps to make it even clearer, we will have spent \$300,000,000 (a third of a billion dollars) and have exactly the same conditions that we have today.

How could this situation have occurred without anyone realizing what was going to happen? Unfortunately, the answer lies in the fact that the DVRPC manually lowered the projections of their computer output and hid their actions from all concerned.

The figures below were generated with Tranplan using the data provided by the DVRPC. In reviewing the information above, please note that the DVRPC and/or PennDOT manually reduced the Build volume by 7,400 trips on 202 and 4,500 trips on 152. These manual reductions were not disclosed, discussed or otherwise accounted for.

<i>PA 152 Published Volumes</i>		<i>Reported By Tranplan</i>
Current	16,200	
No-Build	23,500	
Build	20,200	24,700

<i>US 202 Published Volumes</i>		<i>Reported By Tranplan</i>
Current	22,000	
No-Build	28,600	
Build	19,700	27,100

<i>Combined 152/202 Published Volumes</i>		<i>Reported By Tranplan</i>
Current	38,200	
No-Build	52,100	
Build	39,900	51,800

As can be seen, the Tranplan results are extremely problematic for PennDOT and could not be reported to the public.

- * On US 202, the expressway only reduces traffic by 1,500 trips when compared to the No Build.
- * On PA 152 the expressway actually creates 1,200 additional trips when compared to the No Build.
- * The combined traffic in the area of this intersection is only 300 trips (.006%) lower with the expressway than if nothing is done.

Obviously, the project would have never received any real level of public or political support nor could it ever be funded if the numbers generated from their own computer program were disclosed.

CONCLUSION

Please reach your own.