# BEFORE THE RADNOR TOWNSHIP <br> BOARD OF COMMISSIONERS <br> DELAWARE COUNTY, PENNSYLVANIA 

IN RE: Conditional Use Hearing of the Trustees of Dorrance Hamilton 3/15/1996 Revocable Agreement of Trust to Develop Properties at 208 and 228 Strafford Avenue and 18 Forrest Lane

Public hearing in the above matter held pursuant to notice on Thursday, March 7, 2024, at the Radnor Township Municipal Building, 301 Iven Avenue, Wayne, Pennsylvania, commencing at 6:35 p.m., before Norma Gerrity, Professional Court Reporter.

BEFORE: MAGGY MYERS, President
MOIRA MULRONEY, Vice President
CATHERINE AGNEW, Member
JAMES COATES, Member
JACK LARKIN, Member JIM RILEY, Member

JOHN RICE, ESQUIRE, Solicitor
APPEARANCES: GEORGE W. BROSEMAN, ESQUIRE, for the Applicant

NOAH MARLIER, ESQUIRE,
Special Counsel for Radnor Township
ALSO PRESENT: PEGGY HAGAN, Executive Assistant to Township Manager

NORMA GERRITY
Professional Court Reporter
14 Fetters Boulevard
Downingtown, PA 19335
610-246-2362


APPLICANT WITNESS:
PAGE

5,143,159
27, 152
59,139
102
By the Board
By Mr. Rice

## EXHIBITS

APPLICANT:

$$
\begin{array}{ll}
\text { A-19 } & \text { CV of Frank Tavani, PE } \\
\text { A-20 } & \text { Traffic Impact Analysis }
\end{array}
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THE PRESIDENT: I think we'll get started. I think Mr. Larkin just walked in, and he'll be here in a minute. He just texted me he'd be here in a minute.

I apologize for sitting over here. I've had a COVID exposure. I'm negative as of 15 minutes ago, but $I$ just wanted to be as safe as I could.

So welcome to the Board of Commissioners conditional use hearing for Thursday, March 7th, 2024.

Would you please join me for the Pledge of Allegiance.
(Pledge of Allegiance)

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THE PRESIDENT: Thank you. I am going to turn it over to Mr. Rice to get us started.

MR. RICE: Thank you. Okay. I think where we are tonight, we know we had Mr. Lambert testify.

He's coming back on the 20th of March for cross-examination, so tonight we have
some new witnesses.
I see Mr. Tavani, who's the traffic engineer, right here, and Mr. Broseman, are you ready to proceed?

MR. BROSEMAN: Yes.
MR. RICE: Okay. After Mr. Tavani, do you have other witnesses tonight, Mr. Broseman?

MR. BROSEMAN: Yes, I do.
MR. RICE: Okay. Let's have him sworn in.

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APPLICANT'S EVIDENCE

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FRANK TAVANI,
having been first duly sworn, was examined and testified as follows:

THE WITNESS: Frank Tavani, $T-A-V-A-N-I$.

\author{

-     -         - <br> DIRECT EXAMINATION
}

BY MR. BROSEMAN :
Q. Frank, would you please describe your educational and professional background?
A. Certainly. I have a Bachelor of Science in Civil Engineering from Rensselaer Polytechnic Institute, graduated in 1993.

I've been in continuous practice as a transportation professional since May of 1993, so coming up on 31 years.

I've been employed by F. Tavani and Associates, Incorporated for 20 years, and prior to that, I was employed for ten years by Orth Rogers and Associates.
Q. And are you a licensed professional engineer in the Commonwealth of Pennsylvania?
A. Yes, since 1999.
Q. Do you have any other affiliations with the Institute of Transportation Engineers?
A. I do. I have a Professional Transportation Operations Engineer certification, or PTOE. I've had that also for quite some time, about 15 years.

MR. BROSEMAN: And I'm going to ask that Exhibit A-19 be handed out, if $I$ could
get a copy for Mr. Marlier.
(Applicant's Exhibit A-19 was marked for identification.)

BY MR. BROSEMAN :
Q. Frank, is this a copy of a summary of your professional and educational background?
A. Yes.
Q. Have you been recognized previously as an expert witness in traffic or transportation engineering before numerous municipal bodies, including zoning hearing boards and governing bodies like the board of commissioners?
A. Yes.

MR. BROSEMAN: I would like to offer Mr. Tavani as an expert in traffic transportation engineering.

MR. RICE: Okay. Just for the residents, what Mr. Broseman is doing, he's trying to qualify Mr. Tavani as an expert in transportation engineering.

So Mr. Marlier may have some questions, and either party can ask
questions, but just about his
qualifications.
And, Mr. Broseman, if you have additional CVs of Mr. Tavani to make available for any of the residents who might want to look at it, that's where we're at. He hasn't started any substantive testimony yet.

So, Mr. Marlier, do you have any questions about qualifications?

MR. MARLIER: I don't.
MR. RICE: Do any residents have any questions about qualifications?
(No response.)

MR. RICE: Okay. Then Mr. Tavani will be qualified as an expert in the field of transportation engineering.

MR. BROSEMAN: Thank you.
BY MR. BROSEMAN :
Q. Mr. Tavani, are you the transportation engineer for the applicant in connection with the proposed density modification development that is
the subject of this conditional use application?
A. Yes.
Q. Are you generally familiar with the subject property and the surrounding area?
A. I am.
Q. And are you familiar with the conditional use plans that have been submitted into the record for this proceeding?
A. Yes.
Q. Did you prepare a traffic impact analysis for the proposed redevelopment of the property in question?
A. Yes.

MR. BROSEMAN: A COPY of the traffic impact analysis was included in part of the applicant's development impact statement, which is at $A-1$, which we had already submitted in the record, but for convenience, we made another copy that we could hand out, and $I$ have marked that as Exhibit A-20.
(Applicant's Exhibit A-20 was marked for identification.)

MR. BROSEMAN: This is the same document, but we just thought it would be easier to hand it out rather than to have you searching for A-1.

BY MR. BROSEMAN :
Q. Before we get into the study, and $I$ know it's in there, but can you describe the existing roads that abut the subject property as well as the adjoining intersection of Strafford Avenue and Eagle Road?
A. Certainly. Strafford Avenue, which is along the, along one of the site frontages, is classified as a local street, according to the township's ordinance, and Eagle Road, which is the other frontage, is a major collector.
Q. I'm sorry. Did you say what the classification of Eagle Road was?
A. A major collector.
Q. And in addition to the roads, are there other modes of transportation in the vicinity?
A. Yes. Very proximate to the site is a SEPTA bus route, Route 106, along Lancaster

Avenue, and there is also a SEPTA regional rail station to the west.
Q. And can you review the Traffic Impact Analysis that was submitted at $A-1$, and we made another copy at A-20.

Can you walk the board through the analysis that you performed?
A. Certainly. A-20 is approximately 110 pages. It consists of about five pages of text, a few pages of figures, and the remainder being various appendix items.

As we've heard from other witnesses as part of these proceedings, this is a proposed attached housing community of 38 units. This is shown in the description on page one of A-20.

The traffic investigation started out no differently than any other traffic investigation. It starts with data collection, traffic counts.

And as shown on page two of $A-20$, we performed traffic counts at the intersections of Strafford Avenue and Eagle Road, Strafford Avenue and Grant and Hedgerow, and also Eagle Road and North Wayne Avenue.

Those counts were conducted last year in April of 2023 during weekday commuter peak periods, which are generally recognized as between 7:00 and 9:00 a.m. and 4:00 and 6:00 p.m. on a weekday.

Of course, we did these counts during the school year, normal weather conditions, and again on a typical weekday.

We identified what the existing peak hours are, and that's because the majority of the tools and resources used by a traffic engineer focus on peak hourly flows, the theory being if you can accommodate peak hourly flows on a typical day, then at all other times when traffic is less, either along the roads themselves, by the site in terms of site trip generations, or both, the impact will be less during those times.

So if you can demonstrate either minimal impact or some impact that can be mitigated during the peak hours, then you're in pretty good shape.

We performed what's called level of service investigations. That's a term I'm sure the board is familiar with.

This is a way to relate the quality of traffic flow to a letter grade, as well as an estimate of delay.

What that means is if you went through an intersection an infinite number of times, you could expect on average to have this performance, this level of delay.

So you could hear something like Level of Service $A$, ten seconds.

That means that if you went through that particular location making that particular turning movement, you could expect on average to wait about ten seconds before you can proceed.

With regard to the site itself, the estimates of traffic for the site come from the ITE Trip Generation Manual.

I actually brought one of the publications with me tonight because I like to take it out once in a while.
Q. And what does ITE stand for?
A. ITE is the Institute of Transportation Engineers. It's an international think-tank that essentially exists to collect empirical data and decide how and when it can be used to help
professionals plan for yet-to-be-built developments.

This is their biggest seller in terms of their publications, the Trip Generation Manual. It's currently in its 11th edition, I believe, and it's updated every few years.

It's basically a collection of data submitted by others to ITE for review and consideration in future publications, so I had nothing to do with this publication, probably never will.

If you look on page three of $A-20$, table one, which tells you ITE's estimate of how much traffic 38 attached homes will generate, and it's about 18 total trips during the a.m. peak hour -- this is page three of $A-20$-- 18 trips during the morning and 22 in the afternoon, and then as shown in page one of $A-20$, that's broken down into inbound and outbound traffic. This is over the course of an entire hour.

So if there was only one driveway, and all the traffic went in one direction, and you were standing there, you would have to wait about two minutes for a car to come by, maybe even
longer than that, related to this development, and again, that is based on the latest data from ITE.

And just to kind of cut to the chase a little bit, $I$ may be asked a question later about, well, you know, you have 38 units. You'll probably have two cars and two people living there.

Doesn't that mean you have 70 or 80 trips that are coming in and out of that home? And the answer is perhaps, but the context is important.

It's not going to be 80 trips in one hour, at least not according to ITE, and obviously there's an hour preceding the a.m. peak hour. There's also an hour following the a.m. peak hour, and there's an hour after that.

Some people leave or arrive home from work during the peak hours. Some leave earlier. Some leave later. So there may be more traffic over the course of the day.

In fact, there probably will be. But during the busiest times of day, according to ITE, you can expect that amount of traffic for
this number of attached units.
So continuing with the methodology of A-20 with existing conditions established through the traffic counts and with a projection of how much added traffic there will be due to the site, one can prognosticate what the future volumes will be like and continue with the level of service investigation to see if there is any meaningful impact from the development.

And we're going to skip ahead for the moment to page eight of $A-20$, where there are some handy tables called the Level of Service Comparison Tables. They're right there.

So this is for each of the intersections that were analyzed, plus the two site driveways shown at the bottom of the page.

What we have here is a comparison between the existing conditions and basically future no-build or build conditions.

And if there's no change whatsoever in the forecasted level of service letter grade or the delay estimate, my convention is to simply put a hyphen, really two hyphens, to show, to allow the reader to very quickly inspect and see
that there's no meaningful, not even a measurable really impact.

So you can see at the intersection of Wayne and Eagle, there's a whole lot of those lines. There's really no impact at all.

In fact, if you look on this entire table, you see a couple of things. Firstly, almost all of the delays are less than ten seconds. They're all Level of Service A's, in large part.

And in terms of the impact of the site relative to the existing conditions, it's no more than one added second of delay during the busiest times of day in the morning and the afternoon.

So that means that the average motorist probably won't even recognize a difference in the quality of traffic flow as it would relate to this site under peak conditions.

As I pointed out earlier, that there's a nearby bus stop. There's a nearby rail station.

And it is possible that some of the residents here may make use of either of those facilities, thereby reducing the potential of
automotive traffic, which is what we had summarized in table one.

I took no credit for that potential use at all, and that was simply to be conservative.

In fact, and I may be getting a little ahead of myself, but along that same line, if you go back to page one of $A-20$, and $I$ think as testified by the first witness during his direct, this site is not a vacant site. This site had buildings on it.

In fact, it had apartments, it had a greenhouse and a staff, all of which contributed to some traffic, and none of which $I$ attempted to quantify or take any credit for, again hoping to provide a conservative investigation for the township's consideration.

There are a few other things that $I$ also did as noted on page four of $A-20$. This included what are called Auxiliary Turn Lane Analysis.

This is a PennDOT tool which doesn't really demonstratively say thou shalt build a turn lane if certain conditions are met, but it's
a good tool to use to see if you're at least trending in that direction or not.

So we don't need separate left turn lanes or right turn lanes at either proposed driveway, for example, and again that was done in accordance with PennDOT's methodolgy, which doesn't necessarily apply here, but it is a standard.

And finally, for what it's worth, I did perform an accident history investigation in the immediate area, and PennDOT defines -there's a notion of reportable and non-reportable accidents.

A reportable accident is generally what one focuses on when doing a crash analysis. Reportable means that either someone was injured or at least one vehicle was essentially disabled as a result of the crash.

So if it's just a fender-bender and both parties are driving away, no one is injured, that's non-reportable.

And the general rule of thumb with PennDOT is you need to look for a crash occurrence of five reportable and potentially
correctable accidents in one $12-m o n t h$ period before you even really consider going any further with your analysis and looking to see if there's some physical change that can be made to try to correct that situation.

So I looked at, at the time, the last six years of available data and found out on average there was only one reportable accident in the general study area per year, whether it's correctable or not, $I$ didn't even investigate, because again that's 20 percent of the threshold before you even begin the investigation. So that in large part is a summary of $A-20$.
Q. Frank, a couple more questions about your study. Is it standard accepted practice for transportation engineers to use the ITE data as you have done in your analysis?
A. Indeed it is.
Q. And generally did you perform your study in accordance with standard accepted practice for transportation engineers?
A. Well, $I$ can say that tonight, and $I$ will, and $I$ will also make reference to a township traffic engineer memorandum dated 1

August 2023 where he, in fact, says that same very thing.

On the last page of that memo, the first full comment on page three of three, the sentence reads:

The Transportation Impact Study was conducted in accordance with general traffic engineering principles.
Q. And for the record, we had already put this memo in the record. It's at A-9 B. It was the Gilmore and Associates, Inc., which is the township traffic engineer for the township, that was their review memo.

In that letter, Mr. Tavani, did it raise any questions with your studies, the methodologies, or the conclusions?
A. No. In fact, it restates the conclusion that $I$ offered in the memorandum.
Q. I'd like to take you back, you may have covered this, and if $I$ missed it, $I$ apologize.

When you were discussing the level of service, could you tell us the level of service at the proposed site driveways that will
intersect with Strafford Avenue?
A. Yes. They are both Level of Service A during both peak hours.
Q. And what does that mean practically as far as the function of those driveways?
A. That means that there will essentially never be a queue longer than one vehicle that happens to arrive and waits to be processed, waits for a gap in traffic to proceed.

And not only will that queue really never exceed one vehicle in length, the delay that motorists will encounter will be slight and on the order of ten seconds or less.
Q. And then when you said how you didn't take any credit for existing traffic that would have been at the property under existing conditions, you more or less treated this, for purposes of your study, as an undeveloped site, and you also said you didn't take a credit for being near transit.

Is it true that you also didn't take any credits for being right next to a shopping center, the Eagle Village Shops, which there's actually a direct path to on the proposed plan?
A. Correct.
Q. And would it be anticipated that being that close to that shopping center and others, would that tend to reduce traffic as a practical matter?
A. Yes.
Q. But you didn't take any credit for that in the study?
A. Correct.

MS. AGNEW: I'm sorry. Could you repeat that question and that answer?

MR. BROSEMAN: Could you read the question back, please?

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(The Court Reporter read back as follows:
"Question: And would it be anticipated that being that close to that shopping center and others, would that tend to reduce traffic as a practical matter?
"Answer: Yes.
"Question: But you didn't take any credit for that in the study?
"Answer: Correct.")

MR. BROSEMAN: Thank you.
BY MR. BROSEMAN :
Q. Frank, I'd like to draw your attention to the proposed site plan, talking about Exhibit $12, A-12$, sheet four, which was the site plan that Mr. Lambert testified about. He testified about other things as well.

You said previously you're generally familiar with the proposed plan. Mr. Panzak has put it up there.

In your professional opinion, are the common internal driveways and the pedestrian access that are provided on this proposed plan adequate to properly serve the proposed development?
A. Yes. There are proposed internal sidewalks. In fact, there are proposed essentially external sidewalks as well. What we're looking at right now is actually figure three from A-20.

One of the things $I$ did not mention during my earlier direct is the applicant is proposing providing sidewalks that do not
presently exist.
In fact, the sidewalks are proposed along the entire length of the frontage on two public streets, on Strafford Avenue, as indicated on the screen right now, looking at $A-12$, and also on Eagle Road. And, as I mentioned earlier, there are internal sidewalks along the internal drive also.

So what this does is provide a pedestrian facility that doesn't exist which would benefit not only the applicant but all of the existing residents along both of those streets. They're obviously public sidewalks that can be used by all.
Q. And, in your professional opinion, will the internal driveways that are proposed be adequate to properly serve the proposed development?
A. Yes.
Q. And have you seen the truck-turning diagram that Mr . Lambert had gone over? I believe it was sheet 12 of A-4.
A. Yes.
Q. And looking at both of those plans,
you're comfortable with the functioning of the internal driveways?
A. Yes. The roads, the internal drives which are proposed are 28 feet wide. This is actually a very generous width.

Just as a point of reference, anyone who might be familiar with, let's say, Montgomery Avenue in Lower Merion Township, that consists of four lanes, and they're each ten feet wide.

So this internal drive, being 28 feet wide, is significantly wider, because it's two lanes, than that significant arterial which carries not only residential traffic but also trucks, garbage trucks, and just about every kind of vehicle you can imagine that goes along Montgomery Avenue, school buses.

So these internal drives are certainly adequate to address the functional needs of 38 attached homes.
Q. In your professional opinion, will the adjacent streets and intersections efficiently and safely handle the traffic generated by the proposed development?
A. Yes.
Q. And in your professional opinion, is the proposed use suitable with respect to traffic and highways in the area?
A. Yes. It's an approved use. It's a permitted use. It's conditional, but certainly consistent with zoning.
Q. In your professional opinion, does the proposed use provide for adequate access and off-street parking arrangements in order to protect major streets and highways from undue congestion and hazard?
A. It certainly does.
Q. In your professional opinion, will the proposed use generate more traffic than would normally be expected from a townhome development similar to the one proposed here?
A. It's no different than any other, with the possible exception of being so close to the transit opportunities I mentioned. If anything, this might generate less traffic than a typical townhouse community.
Q. In your professional opinion, would the proposed townhome development cause any impacts on the township or the regional
transportation system that would not normally be expected from a townhome development that is similar to the one proposed here?
A. There would be no difference.

MR. BROSEMAN: That's all I have for Mr. Tavani at this time.

MR. RICE: Mr. Marlier?
MR. MARLIER: Yes, I have a few questions, Mr. Rice, if I could have my microphone.

> CROSS EXAMINATION

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BY MR. MARLIER:
Q. Mr. Tavani, I have a few questions about your testimony, particularly regarding driveways.

It's a little confusing, because the road that is in the development is now marked as Drive $A$ and Drive $B$; correct?
A. Yes.
Q. Whereas previously in what I'll call Hamilton-1, you were here for Hamilton-1, you testified; correct?
A. Yes.
Q. These were not marked as Drive $A$ or Drive B; correct?
A. I believe you're correct, yes.
Q. Do you remember what they were marked as?
A. I believe it was road.
Q. I just want to be clear. When you were testifying a few minutes ago about the adequacy of driveways, were you referring to Drive $A$ and Drive $B$ and not specifically the driveways into each unit?
A. Correct, not the individual driveways to the units. The common internal drives.
Q. Seen on $A-12$ on the screen, $A-12$, sheet four, Drive $A$ and Drive B?
A. Yes.
Q. But you do indeed have driveways to each private townhome; correct?
A. Yes.
Q. And these driveways are off of Drive $A$ and Drive B; correct?
A. Yes.
Q. And each connect to Drive $A$ and Drive

B?
A. Yes again.
Q. Will each of these townhomes have an individual address, sir?
A. Yes.
Q. And Drive $A$ and Drive $B$ would obviously be used by these townhomes; correct?
A. All townhomes can access Drive A or Drive B. Whether or not they always make use of both drives is probably a function of the location of the unit within the development itself.
Q. And just for the record, and this may be obvious, but either Drive $A$ or Drive $B$ would be used for ingress or egress into the development?
A. Maybe.
Q. Well, how else would you get in?
A. Well, I'm saying that the unit, looking at $A-12$, the unit in the upper left corner, $I$ can't make out the number, that motorist -- Unit 20, thank you -- that motorist is probably more likely to make almost exclusive use of Drive $A$ in arriving or leaving the site,
although he or she may make use of Drive B.
Q. So they would either use Drive $A$ or Drive $B$ for ingress or egress?
A. Yes.
Q. And you mentioned the parking in this development. There would be no parking on Drive A or Drive B outside of designated spaces; correct?
A. Yes.
Q. And Drive $A$ and Drive $B$ would access the more heavily traveled Strafford Avenue, more heavily onto Strafford Avenue than Drive A and Drive B are?
A. Yes.
Q. They lead into a more heavily trafficked road, and we can call it a local street?
A. That's how it is defined in the ordinance, yes.
Q. Can you point out on $A-12$, sheet four, if Drive $B$, the distance from Drive $B$ to Eagle Road, the intersection with Eagle and Strafford is shown there?
A. Yes. It is 174 feet from the
centerline of Drive $B$ to the centerline of Eagle Road.
Q. Thank you. Can you state what the grading is on Drive $A$ ?
A. The grade?
Q. The grade.
A. I cannot. That might be a better question for Mr. Lambert.
Q. If I asked you about the grading of Drive B, that would also be for Mr. Lambert?
A. Yes.
Q. The path down to the commercial property, for lack of a better way of saying it, the bottom of $A-12$, sheet four, is there an easement for that along that path onto the other property?
A. I believe that's more of a legal question than a practical question, so I'll say I don't know.
Q. Okay. If $I$ can go to the parking you referenced in your testimony, is it the plan for this development to have garages for each townhome?
A. That is my understanding.
Q. And how many cars will be in each garage?
A. I believe the proposed width of the garage is two cars.
Q. Do you know the proposed --

MR. BROSEMAN: I will note that Mr.
Lambert testified about this specifically, so $I$ would like to defer to his testimony. Mr. Tavani didn't testify to those specifics.

MR. MARLIER: He certainly testified to driveways and vehicle traffic, and I think he can answer the question if he's able.

MR. RICE: He can either answer or say he doesn't know.

BY MR. MARLIER:
Q. What is the width of each garage, Mr. Tavani?
A. A-4 of -- sheet four of A-12 indicates 19 feet.
Q. Nineteen feet. And in your expert opinion, would 19 feet be sufficient for two vehicles?
A. Yes, absolutely. Typically a car is about six or seven feet wide.
Q. Would you be able to open, if two vehicles came into the garage at the same time, would they both be able to open their doors towards one another? Would there be enough width for that?
A. Well, obviously that will vary with the vehicle. But with 19 feet on the aprons, I presume it might be slightly less in the garage.

Nevertheless, one does not need to open one's vehicle door to its widest extent in order to enter or exit the vehicle, and obviously the length of the vehicle affects the length of the door.

But this proposal is not any different, in my experience, than what's typically provided for a two-car garage, and I think it will be functional.
Q. So let's talk about functional. I don't think you answered my question, so I'll repeat it.
A. Okay.
Q. If two vehicles, standard-sized
vehicles -- we all understand there are different-sized vehicles and different-sized doors, but you're certainly talking in generalities throughout your testimony.

So if we can talk about generalities here, you have two vehicles who both open their doors at the same time. Would they be able to do that in these garages?
A. Could you be a little bit more specific as to which doors?

And I'm not being coy, but if you're talking about two vehicles within the garage, and one vehicle is opening the passenger's door simultaneously as another vehicle next to it is opening its driver's door, that is a different situation than if they're both opening their driver doors or they're both opening their passenger doors.
Q. Correct. I'm talking about one driver's and one passenger's, so they're opening towards each other. Could they do it?
A. Again, you were not specific as to one driver, one passenger in each car or in the same car.

The worst-case scenario would be two vehicles in this enclosed garage, and they're both opening the interior doors, not the exterior doors.

That would probably present a problem, especially if they were similar in wheelbase and they also stopped at the same location.

If one was a little shorter than the other, if one stops a little bit deeper into the garage so that the doors did not perfectly line up, that would aid the situation.

But in that unlikely scenario where they both open simultaneously and they're both directly opposite one another and very similar, then they probably would have to say, I'll get out first and then you can get out.
Q. So your testimony is that it's more likely people are going to coordinate to get out --

MR. BROSEMAN: I'm going to object again. I think Mr. Lambert testified about this. He testified differently than --

MR. RICE: Mr. Broseman, he's an expert. He can answer it or he cannot
answer it.
MR. BROSEMAN: Well, Mr. Lambert testified differently about the sizes of these garages, according to my recollection.

His testimony was that the dimensions shown on these plans were to show that there would be space in the garages to meet the Radnor Township code requirements.

MR. RICE: Time out, Mr. Broseman.
MR. BROSEMAN: Well, I'm going to ask Mr. Tavani not to testify about things that Mr. Lambert testified about.

MR. RICE: Mr. Broseman, your objection is overruled.

MR. BROSEMAN: I wasn't finished explaining.

MR. RICE: Your objection is overruled.

MR. BROSEMAN: I wasn't finished.
MR. RICE: There's no explanation once your objection gets overruled.

MR. BROSEMAN: Mr. Marlier interrupted me.

MR. RICE: Pardon me?
MR. BROSEMAN: He interrupted me while I was speaking.

MR. RICE: Yes, but your objection is overruled. He's an expert witness.

MR. BROSEMAN: I was speaking, and he interrupted me.

MR. RICE: He was testifying, so let him ask his question. Okay? Your objection is overruled. That means you stop.

MR. BROSEMAN: I know, but he interrupted me while $I$ was making my point.

MR. RICE: I understand. I understand.

Go ahead, Mr. Marlier.
BY MR. MARLIER:
Q. Mr. Tavani, is it your testimony that it's more likely that people will coordinate opening up their doors so that one can open first and then the other will open, rather than two people opening at the same time and bumping doors?
A. That's a possible outcome if two
vehicles are in the garage and both operators are attempting to open the internal doors
simultaneously, which $I$ would think is a very unlikely occurrence but nevertheless possible.
Q. Are there going to be restrictions on the owners of these townhomes regarding the use of their garage as anything but parking?
A. I don't know.
Q. So if somebody does use their garage for storage, for example, those two parking spaces are gone; correct?
A. Depending on the items stored. You can certainly store some items in a garage and still have space for vehicles, but it might be possible to completely fill a garage so that a vehicle could not fit as well.
Q. Do you know whether or not there's going to be any, how it will be enforced, these garages being used for parking?
A. I do not know.
Q. What are the dimensions of each driveway, Mr. Tavani, and when $I$ say "driveway," I don't mean Drive $A$ and Drive $B$, but each townhome's driveway?
A. Sheet four of A-12 has some of the driveways' dimensions, and they are shown to be 20 feet deep.
Q. Are all of them 20 feet deep?
A. I did not measure all of them -MR. BROSEMAN: I'm going to object. Mr. Lambert testified about this specific point.

I feel that Mr. Marlier is trying to confuse the record by asking things that Mr. Tavani did not testify about that Mr. Lambert already did.

MR. MARLIER: Mr. Rice, if their two witnesses conflict, that's not my problem.

MR. BROSEMAN: Mr. Tavani did not testify about this.

MR. RICE: Gentlemen, the objection is overruled. This is cross-examination.

Unless he starts asking him about aerospace or something, he's a traffic engineer.

If he doesn't know, Mr. Broseman, he doesn't know, but he did refer to the plan already during his testimony.

MR. BROSEMAN: I don't want the record to be confused. I feel like Mr. Marlier is trying to confuse the record.

MR. RICE: You will have the opportunity to redirect this witness when he's done cross-examining, so you can un-confuse the record if you think it gets confused at that point.

Mr. Marlier, go ahead.
BY MR. MARIIER:
Q. Are all of the driveways to the townhomes, the individual driveways, 20 feet deep?
A. No.
Q. What are the other lengths of the driveways?
A. Well, not all of them are dimensioned, but for purposes of discussion, if one were to look at Unit 1 or Unit 2 , it appears that is a significantly longer curvilinear distance than 20 feet.
Q. Does it say specifically?
A. No, but they are longer.
Q. In your expert opinion, how many, in a

20-foot, if we could take the 20 -foot-length driveways -- and what is the width of the driveways?
A. So I'll make reference again to sheet four, A-12. Unit 29 is dimensioned 19 feet in width.

Unit 30 is dimensioned 20 feet in depth, and there is an offset between 30 and 31 that is two feet, so it appears that some of the units are, in fact, two feet longer than 20 feet.
Q. So if it's 20 foot and 19 foot, 20 foot deep, 19 foot wide, how many cars could park in the driveway?
A. Two.
Q. And would the same issue with the garage that we just talked about, opening car doors towards one another, so driver's side, passenger's side, would that same issue be on the driveway as well?
A. It's possible, but it's less likely.
Q. And when someone is getting out of the driver's side in their driveway, would they be, the driver's side that's parked on the left side of the driveway, would they be getting out into
the driveway or onto grass?
A. I'm looking at Unit 31. If someone pulls into that apron on the left side and opens the driver door, they would be exiting pretty much in the vicinity of the sidewalk leading to, I presume, the front door of Unit 31 , so $I$ don't think that would be a problem.
Q. Would that be different on each townhome?
A. It could be. Part of the reason why, as I said earlier, it's less of a problem on the apron is because the apron doesn't have walls on either side like a garage does.

So it's certainly possible that a motorist might align his or her vehicle a little closer to the respective edges of pavement to create a wider effective distance between the vehicles internally. I think $I$ answered the question.
Q. You talked about turning radius, Mr. Tavani. When $I$ look at this, $I$ think of fire trucks and whether they could have easy access into this development.

Have you reviewed these plans with the
fire marshal for Radnor Township?
A. I did not. I did not prepare the plans.
Q. Do you know if these plans were reviewed by the fire marshal?
A. I will leave that to the testimony of others.
Q. So you do not know, sir?
A. I do not know specifically.
Q. There's a fire truck shown on one of the plans that was submitted, and you're familiar with the plans; correct?
A. Yes.
Q. Do you know if that fire truck is the largest fire truck in the Radnor fleet?
A. I don't.
Q. And what is the turn radius, and you may have testified to this, and I apologize if $I$ missed it.

If you're looking at the bottom right-hand corner of the development, when, for lack of a better way of saying that when Drive $A$ turns into Drive $B$ at the bottom right-hand corner, what is that turn radius?
A. As I said previously, I did not prepare these plans, so $I$ was not intimate with those details.

I'm looking through the sheets, and I don't believe it's dimensioned, so $I$ cannot answer your question.
Q. So since you don't know the turn radius on that specific turn, is it fair to say you don't know the turn radius on the other curve as well?
A. Again, $I$ did not prepare the plans. The situation is tantamount to asking the civil engineer about level of service. He probably would also say he doesn't have answers to those questions.
Q. Well, you testified as to the turn radius and the safety within, circulation within the development; correct?
A. I testified as to familiarity with the plans and that $I$ believe the impact of this development doesn't create a safety concern.

I'm not sure if $I$ would characterize my direct the way you did.
Q. Fair enough. Regarding the turn
radius, and you may not be able to answer, but regarding the turn radius in that bottom right-hand corner where it turns from Drive $A$ to Drive B, did you look at the largest possible Amazon truck that would be coming through the development?
A. I looked at no vehicles.
Q. No Fed Ex truck?
A. Correct.
Q. Okay. If we could just go to your testimony regarding the traffic study, $I$ understand that these are more general, kind of a general formula, correct, from the manual that you brought with you this evening?
A. Could you clarify what you mean by "more general"?
Q. Well, these are projections; correct? So you can't take any real calculations, because the development isn't here yet; correct?
A. I wouldn't characterize it that way.
Q. How would you characterize it?
A. I believe that $I$ used ITE as a reference in accordance with general traffic engineering principles as stated by the township
traffic engineer in his memo.
Q. You did mention the memo from the traffic engineer.

Have we received -- was there any memo or did the traffic engineer for the township opine as to the revised plans that were put into the record on January 31st, 2024?
A. I don't know.
Q. Have you seen any opinions?
A. I have not.
Q. You did read my mind a little bit, but I want to be very clear.

How many individuals would you say will be living in each of these townhomes on average?
A. I really don't know.
Q. How many drivers?
A. I have no way of guessing or estimating how many adults or people will reside in these units.
Q. You don't think knowing the number of adult drivers in these units may have an impact on the amount of traffic that's coming in and out of this development?
A. It may.
Q. You've been with your company now for 20 years; is that correct, sir?
A. Yes.
Q. You've been a traffic engineer for almost 30 , you said?
A. Almost 31 .
Q. In your 31 years as a traffic engineer, have you ever had an experience where the ITE Trip Generation Manual did not appropriately capture the specific traffic issue once development occurred?
A. In my experience, the ITE Trip Generation Manual is rarely, if ever, contested.

I really have no reason to perform any follow-up count after any type of land development was constructed to check the actual traffic against the ITE predictions.
Q. So your answer is that you've never had a specific instance where the traffic that ended up coming in and out and around the development was more than what the projection from the ITE was?
A. Never more or never less, for that
matter.
Q. You've never looked into it?
A. Correct. I spend my nights here.
Q. You mentioned the sidewalks within the development, if we could go back to A-12, $I$ believe sheet four.

Are there sidewalks on both sides of Drive $A$ and Drive $B$ ?
A. No.
Q. Where would the sidewalks be, can you describe?
A. They are shown in sort of a pale yellow or tan color along the outer perimeter of Drive $A$ and Drive $B$ on sheet four of $A-12$.
Q. So there's no sidewalks on the inner loop of Drive A or Drive B; correct?
A. Correct.
Q. It would certainly increase the safety of the development if there was sidewalks along the inside; correct?
A. I don't know.
Q. Well, walkability certainly would make the development safer, correct, safe walking areas?
A. I believe that the process provides safe walking areas.
Q. But if there was sidewalks on the inner loop, these would be safer; correct?
A. I don't know that $I$ would agree with that. I'm not aware of any metric that says one is safe and one is not safe.
Q. You're not aware of metrics about safety?
A. Yes. I am not aware of any metric that says having sidewalks on both sides of an internal drive is more or less safe than just having one sidewalk.
Q. What does your 31 years of experience tell you?
A. In my experience, in my opinion, given the relatively low volume at hand, if a pedestrian were to cross from one side to the next of Drive $A$ or Drive $B$ to use the sidewalk, $I$ don't think it's a meaningfully different situation in terms of that pedestrian's safety.
Q. There's been, I'll call it, a by-right plan or a single-home plan that's been put into the record. Have you reviewed that document,
those plans?
A. I'm generally familiar with it. They are both by-right, but as you said secondarily, that is generally referenced as the single-family or detached housing plan.
Q. In your expert opinion, would there be less traffic with that plan?
A. No. There would actually be more.
Q. There would be less traffic if there were less townhomes in the plan that's put forth, the plan that's on $A-12$, sheet four; correct?
A. That's true, but that isn't what you just asked.
Q. Correct. I was asking another question. If you had 30 townhomes instead of 38 , there certainly would be less traffic; correct?
A. Yes.
Q. These townhomes are going to be roughly 3,000 square feet; is that correct?
A. That number sounds familiar, but I'm not certain.
Q. If that is correct, they're 3,000 square feet, and if they were, let's say, 2,000 square feet, you would most likely have
less people living in those townhomes; correct?
A. It's speculation, but it's possible.
Q. Well, in your experience, would there be less people living in smaller houses?
A. It's possible. It doesn't necessarily correlate. The size of a house depends on one's affordability.

It's certainly possible to have six people in a thousand square feet if that's all they can afford or two people or one person in a 6,000-square-foot house.
Q. But you have no projections, just to be clear, about how many people would live in these homes?
A. The number of people in the homes is not a variable in the ITE Trip Generation Manual for traffic estimating.
Q. But in the real world, the number of people in a home could correlate to the number of drivers?
A. The ITE manual is based on real world experience, and it's the standard all traffic engineers use.

If $I$ were to try and speculate as to
the traffic based on number of residents or any other variable, $I$ would be immediately called out by this township's traffic engineer and virtually all traffic engineers with whom I've dealt in the past.
Q. Did you do a traffic count -- you may have mentioned this. Which intersections did you do traffic counts?
A. Reference was made in page two of A-20. There are three bullet points:

Strafford Avenue and Eagle; Strafford and Grant and Hedgerow; and Eagle and North Wayne.
Q. Have you been to this site yourself, sir?
A. Yes.
Q. You testified about -- what is at the site currently, the existing conditions?

I think you mentioned apartments or what's been there previously, apartments, a greenhouse; correct?
A. Yes. There are existing residential structures.
Q. And are those operational currently?
A. I don't know about currently.
Q. You testified as to the fact that you did not take these existing conditions into account, meaning you didn't take credit for it, $I$ think is the way you testified.

But you wouldn't take credit for individuals driving in and off this -- on and into this property from years ago; correct?

If there's no one there now, you obviously wouldn't take credit for that; right?
A. False.
Q. Tell me why it's false.
A. What $I$ was describing is the trip generation estimates were based simply on the proposed number of units.

If there are existing units, whether they're occupied or not, if they're legal and there is existing units on the property, it would be reasonable to take a credit for those units against the projected surcharge of new traffic, because that is a condition that could generate traffic in the future, whether it's occupied presently or not.

So I think you might be conflating
existing traffic volume with the existing units.
What $I$ was talking about is just the trip generation potential, and $I$ contend that it would have been appropriate to diminish the ITE projections to the extent that there is existing activity on the site.

MR. RICE: Does the ITE manual address that issue?

THE WITNESS: It may, but $I$-- this is a common sense engineering issue, where if you have an existing building, and you're tearing it down, I'm sure you've heard this argument before, you have --

MR. RICE: More times than $I$ care to mention. My only question, Mr. Tavani, is the ITE manual addresses existing building structure uses in their calculations.

I mean, you're saying it's a common sense traffic engineering issue.

I just want to know whether the ITE manual says you should take credit or you can take credit for existing buildings, which you testified to that you didn't do that.

THE WITNESS: This manual is nothing but basically data. So how you apply it is based on what you've learned in practice, what you've learned in college.

I'm not aware that there's a how-to guide of how to implement this --

MR. RICE: For that issue?
THE WITNESS: Right. But there very well may be.

MR. RICE: Okay. Sorry, Mr. Marlier. I thought that was a question $I$ wanted to know, and I didn't want to forget about it.

MR. MARLIER: Understood.
BY MR. MARLIER:
Q. Mr. Tavani, you testified that you would reduce traffic being near a shopping center. Can you explain how that is?
A. So again, lucky sheet four of $A-12$ is referenced, and you can see the proposed path to a nearby shopping center.

It's certainly possible that some of the traffic activity in a residential development during peak hours is associated with trips to or from retail opportunities, just like they could
be associated with trips to and from work.
So to the extent that you provide a pedestrian or a bicycle facility, that would be a direct link to opportunities like that, work opportunities, shopping opportunities.

It's possible that some automotive traffic will be reduced by virtue of the walking trips that it fosters.
Q. So if $I$ understand correctly, it's less about it being a commercial property and more about the walkability of the surrounding neighborhood?

Is that what you're saying?
A. I don't know what you mean by it's less about the commercial.
Q. I believe your testimony was that being near the shopping center would reduce traffic, and $I$ 'm just trying to figure out why that is.
A. So if you have a nearby retail opportunity, and the only way you can get there is by driving, then you generate automotive traffic.

If you have a facility, you can get to

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that same shopping center by doing something other than driving, like riding a bike or walking or taking a bus, then that fosters a reduction in automotive activity.
Q. I understand. Thank you. And the ITE manual, when did it first come into publication? Roughly, do you know? If you don't know the year, it's fine.
A. I would imagine probably in the '70s, maybe the '60s.
Q. You testified as to Montgomery Avenue and the width; correct?
A. Yes.
Q. Was Montgomery Avenue built prior to the '70s?
A. I don't know. I certainly would imagine so.
Q. So obviously when you were talking about Montgomery Avenue and comparing it to this development, Montgomery Avenue was certainly built well before a lot of the standards that we have today; correct?
A. My testimony was relevant to how Montgomery Avenue can accommodate different
vehicle types.
I'm not sure if the age that it was constructed really relates to whether or not a school bus can be accommodated by ten-foot-wide lanes.

That was what $I$ was attempting to address. But $I$ will concede that it was built at a time when different standards existed.
Q. One last question. You talked about the manual's facts and figures, but, of course, you apply your knowledge and your expertise to them; correct?
A. What the traffic engineer is tasked with doing is finding the land use code, they call it, that is the best fit for what an applicant proposes.

Sometimes there isn't an exact proposed fit, but in the case of detached or attached housing, there is a rich database.

So I guess the expertise is really limited to picking what's most appropriate to utilize.
Q. Did you speak to any of the neighbors about their experience with traffic around this
area?
A. No.

MR. MARLIER: I have no more questions.

MR. RICE: So we'll go to the resident parties. Remember the procedure.

You can ask Mr. Tavani about any of his testimony, anything related to traffic. - - -

CROSS EXAMINATION

MR. RICE: So let me start with Amber Levy.

MS. LEVY: No questions at this time.
MR. RICE: Mr. Chawla?

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(No response.)

-     -         - 

MR. RICE: John Clemente? No?

-     -         - 

(No response.)

-     -         - 

MR. RICE: Mr. Curley?
MR. CURLEY: Brian Curley, 136

Fairfield Lane. I'm a Radnor resident. Question, sir.

Does the ITE book guideline for distance from the site in terms of the intersections that you tested, is there a distance number, you know, a thousand feet, a mile, a half mile?

THE WITNESS: I'm not aware of an ITE standard to that effect.

MR. CURLEY: Okay. So can I question why the intersection at Eagle Road and Lancaster Avenue was not part of the study?

THE WITNESS: At Eagle Road and Lancaster. Okay, yes.

So, simply stated, most traffic studies begin by conducting traffic counts and subsequent analysis at the intersections closest to the site, because those are the ones most significantly impacted in terms of the percentage of traffic activity.

As you get further away, you might have some traffic turning down this road or some turning down that road.

As you get to further downstream locations, you may find yourself having ten percent of site traffic as opposed to a hundred percent if you were immediately adjacent to the site.

So if you can demonstrate that the impact at the closest intersection was negligible or not even measurable, then you probably don't need to go any further away to find out what those impacts are.

Furthermore, if an intersection is even busier than the intersections that are nearby, you have a larger denominator in the fraction, and as the site traffic is the numerator, all you're doing is diluting the impact of the site on that location.

If you have an intersection that has a hundred vehicles an hour going through and you're adding ten trips related to the site, okay, so maybe you have a ten percent impact.

But if another intersection that's essentially not far away has 2,000 vehicles an hour, and now you're adding maybe five,
because some of the traffic goes in different directions, it stands to reason that the impact is going to be hardly noticeable because it's a smaller percentage of total activity.

MR. CURLEY: So that also applies to the intersection of Strafford Avenue and Old Eagle School Road by the Strafford train station?

THE WITNESS: Essentially. I mean, Grant and Hedgerow is the closest intersection to the west, if you will, so going any further west is going to potentially have less impact, especially if there's greater underlying traffic activity.

MR. CURLEY: What's confusing is that both those intersections appear to me to be closer than the intersection that you tested, which was Eagle Road and North Wayne Avenue.

Eagle Road and North Wayne Avenue, I'm going to say, is at least a quarter mile away from the site.

Can you give me any rationale why you tested that intersection and not the two other intersections that would be closer?

THE WITNESS: The rationale was probably best related to the second reason that I gave you, which is that total intersection volume plays a part, and the total intersection volume at Wayne and Eagle is certainly less than at Lancaster and Eagle.

So it was less about linear distance and more about applying some other considerations.

MR. CURLEY: The other question I had was, when you did the traffic study, I saw, and again, $I$ didn't get a chance to review this one.

But in the previous traffic study, you referenced the $S t$. Honore traffic study, in essence saying that because the St. Honore traffic study had minimal impact, even that minimal impact added to this traffic study was not going to have any impact, yet at the time the St. Honore project hadn't even
started.
So how could you justify that there would have been no impact to that particular traffic study?

THE WITNESS: I'll give this my best shot. A traffic study should consider other nearby developments that, usually those that have been approved and stand a likelihood of being built; indeed, even some that have been approved and for whatever economic reasons may never be constructed.

But if there's a development that is nearby that you have a reasonable likelihood of knowing is going to add traffic to your study area, you probably should consider surcharging your study area with that other development's traffic, and for St. Honore, $I$ actually did just that.

In fact, the slide in $A-20$ on page three under the second paragraph under Analysis of Transportation Impact, I point out that, in fact, the potential maximum traffic associated with that project when
fully constructed was layered into the future build conditions of this traffic study.

So I think I did what you're asking, is essentially what I'm saying.

MR. CURLEY: Yeah. When you did the St. Honore study, the traffic study, which was completed in May $16 t h$ of 2019 , there was a note that there was no other known approved land development projects in the vicinity of the site, yet testimony from, I recall, January 29 th from Mr. Houder indicating that this project has been ongoing since 2018.

So how could you justify that there was no other development projects in the vicinity?

So, in essence, you're using the St. Honore study to say it was minimum, yet you didn't take into effect, into account this particular project.

THE WITNESS: I might need help here. I'm not sure I'm understanding.

As I attempted to testify, A-20, my
report dated May 2023 , does reflect the potential traffic associated with St. Honore.

And for what it's worth, and as the board may know, $I$ actually did prepare the traffic study for $S t$. Honore as well, and that was dated September 2022.

MR. CURLEY: September 14th.
THE WITNESS: That's right, which made it that much easier for me to incorporate it, which is why I did.

MR. CURLEY: Again, but it did not address this project. That's my point of order.

Next question is, are there guidelines about sample selection, like what day of the week you choose to do your traffic studies?

Is it something in the ITE manual that tells you? Do you pick it out of a hat, or it's random?

THE WITNESS: The general rule of thumb traffic engineers follow is to conduct, for projects that impact weekday
traffic volume, you typically pick a Tuesday, Wednesday, or Thursday, especially as it's becoming warmer out when people might take a three-day weekend, because that could affect Monday or Friday traffic volumes.

Obviously, you do counts in normal weather conditions. Some light precipitation is probably okay, but the snow, we try to avoid that.

We try to stay away from nationallyrecognized holidays.

If there are schools nearby that could affect underlying traffic, we try and do it when school's in session. But $I$ believe we've met all of those marks.

MR. CURLEY: Yes, except I will point out that both traffic studies for this project and for the St. Honore project were conducted on Thursdays.

People in the area will obviously tell you --

MR. BROSEMAN: I'm going to object.
He keeps bringing up the St. Honore traffic
study. We're not here about that. Could we focus on --

MR. CURLEY: It's part of -- it's noted.

MR. RICE: Mr. Curley, just ask Mr. Tavani a question. Okay?

MR. CURLEY: Sure.
MR. RICE: Instead of making statements. Ask him a question about that.

MR. CURLEY: Okay. Why was Thursday picked, because people in the neighborhood will tell you, on Wednesdays, there's a farmers market that's open, on Fridays, there's a farmers market that's open, and traffic is significantly higher.

So why was Thursday picked?
THE WITNESS: Well, I did attempt to answer earlier about why Tuesday, Wednesday, or Thursday is a typical day and why it was chosen.

And I am aware there's a farmers market nearby that's only open very limited days per week. It's not like it's always generating traffic.

I think it's only three days a week, two of which, $I$ believe, are on a weekend. I believe it's Thursday, Saturday, and Sunday?

MR. CURLEY: No. Thursday -Wednesday, Friday, Saturday.

THE WITNESS: Wednesday, Friday, Saturday. And I believe on certain days, it closes at like 3:00 o'clock?

MR. CURLEY: 4:00.
THE WITNESS: 4:00 o'clock. So the impact of the farmers market is virtually nothing during the weekday p.m. commuter peak period, which is from 4:00 to 6:00 P.m.

MR. RICE: We're talking about Thursday though; right?

THE WITNESS: It doesn't really matter. I mean, whenever the farmers market is open during a particular day, if it's closed by 4:00, it's not going to be generating traffic.

So my contention would be, we're halfway home. The traffic impact of the
farmers market on any of these developments is really minimal, and in the morning, $I$ do believe it opens at 7:00?

MR. CURLEY: 6:00 a.m.
THE WITNESS: 6:00 a.m. I guess the hours have changed in the last two years. This came up in 2021.

I'm not sure if the farmers market is really a hotbed of activity at 7:30 in the morning on Thursday.

MR. CURLEY: Obviously, you don't live here. Thank you. Thanks for answering my questions.

MR. RICE: Okay. Mr. Gaeto?

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(No response.)

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MR. RICE: Hansen?

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(No response.)

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MR. RICE: Mr. Holloway?

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(No response.)

MR. RICE: Mr. Hymel?
UNIDENTIFIED SPEAKER: Wait, wait.
MR. RICE: Oh.
MS. HANSEN: Cindy Hansen. My
question was, I missed the date. Is this traffic study a year old? Or was it done in August of 2023?

I'm asking, what date was the traffic study completed?

THE WITNESS: The publication was May of last year. The data was collected in April of last year.

MS. HANSEN: Okay. Thank you. And at that time, do you think that people were not going back to the office very much and that they have now increased their trips this year?

THE WITNESS: It sounds like you're speaking relative to the recent pandemic?

MS. HANSEN: Well, yes, because that was still -- and nobody was going back to work, and now everybody is being called back to work.

I mean, just, $I$ mean, $I$ can't like make any comments. I'm asking a question. Have you noticed that the train station parking lot is now full every day, rather than being empty as it was when you did your study?

THE WITNESS: I did not survey the train station parking recently or in the past.

MS. HANSEN: Right. And I also, I don't understand, I'm questioning why that area was not -- well, it was.

You had Hedgerow and Grant Lane in your study.

THE WITNESS: Yes.
MS. HANSEN: Would be affected by more traffic at the train station now.

Thank you.
THE WITNESS: You're welcome.
MR. RICE: Catherine Lafarge?
(No response.)

MR. RICE: Mary Ann Mahoney?

MS. MAHONEY: No questions.
MR. RICE: Jennifer Pechet?
MS. PECHET: I'm Jennifer Pechet. I live at 3 Madison Lane, and I'm representing the HOA.

Looking at that map, if you look right, we're the townhouse community right on the corner there.

MR. RICE: Ms. Pechet, I don't know whether you've asked questions before, but --

MS. PECHET: I'm sorry.
MR. RICE: But tonight Mr. Tavani testified. You need to ask him questions about his testimony. If you have some other statement --

MS. PECHET: No, I don't.
MR. RICE: -- that could be done later. But ask him questions about his testimony, please.

MS. PECHET: My questions concern, as you did the traffic study and you were talking about the walkability of the area and putting sidewalks on the three outside
corners of the property, and $I$ know that there are sidewalks on the other side across the street that have been put in or are being put in, and in front of the community where $I$ live when it was constructed sidewalks were put in.

I'm bringing that up because as you were saying more sidewalks, more walkability, having more people walk would reduce the number of conceivably vehicles on the street.

MR. RICE: Do you agree with that, Mr.
Tavani?
THE WITNESS: Yes.
MS. PECHET: So my question is, as I laid my foundation for my question, $I$ would like to know, would it make it safer, would it make it more walkable to continue the sidewalks basically on the other side of Strafford Avenue, like going down towards Lancaster Avenue?

Does that make sense where I'm describing?

THE WITNESS: Beyond the applicant's
frontage?
MS. PECHET: Yes. All I'm asking is, would that make sense to you, in your opinion as an expert, in terms of walkability and safety, having sidewalks on either side of Strafford Avenue heading down towards Lancaster?

THE WITNESS: Sure, yes.
MS. PECHET: Great. That's my question for tonight. Thank you very much.

MR. RICE: Steven Rocci?
MR. BROSEMAN: I thought we decided he might have been the gentleman that moved away.

MR. RICE: Oh, you're right.
MR. MARLIER: He may have moved back.
MR. RICE: No, no, no, no.
MR. BROSEMAN: He could have.
MR. RICE: I'll just mark him off of my list.

Okay. Margaret Ruschmann?

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(No response.)

MR. RICE: Mr. Sareen?

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(No response.)

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MR. RICE: David Satterfield?

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(No response.)

MR. RICE: Steve Scheri?
MS. MEGAN SCHERI: No questions at this time. Thank you.

MR. RICE: Megan Scheri?
Mr. Schuda?
MR. SCHUDA: Good evening. My name is Joe Schuda, 14 Forrest Lane.

Mr. Tavani during your testimony, you referenced the ITE manual, $I$ believe, several times; is that correct?

THE WITNESS: It is.
MR. SCHUDA: Okay. In that particular manual, Mr. Marlier asked about the accuracy of the ITE manual relevant to completed projects, and you testified that you never went back to confirm the accuracy
of a project once it was completed, but you also said that the ITE manual is updated approximately every two years, I believe you said?

THE WITNESS: I think I said "few."
MR. SCHUDA: Okay. What, in
particular, are those updates? What do they consist of when they're updated?

THE WITNESS: I am familiar with the publication, but I'm not the author.

But my understanding is ITE welcomes and always accepts real world empirical data that it reviews and considers whether or not it's worthy to include in its databases and its analyses.

And once they get enough data, then they decide to publish a new edition of the manual so it stays current with motoring trends.

MR. SCHUDA: Would that, in your opinion as an expert, justify your review of completed projects in order to contribute to the accuracy of that manual?

THE WITNESS: I believe the answer is
no, but could you restate the question?
MR. SCHUDA: Okay. In other words, if you were to reevaluate a project once it was completed, or several projects, in light of your affiliation or membership in a unique group of engineers, would that not contribute to a more accurate and precise manual, so that when it's utilized by your counterparts, that would also help situations like this to reflect accuracy so you're not speculating on what something could be or should be?

THE WITNESS: I appreciate your implied importance of my role with updating the ITE manual, but $I$ will say while I may not have done it, there are professionals who do this routinely enough that the 12 th edition is currently in the works.

And I really do like what $I$ do for a living, but $I$ don't know if I've gotten to the point yet where $I$ go and after the fact perform traffic counts of existing sites.

MR. SCHUDA: And relevant to that, there was a question about the number of
potential drivers that could be associated with the new development, and at that point, $I$ believe you said you had no idea, but you also said that the ITE manual references, in cases where this occurs, whether something's going on similar to the site, $I$ assume are establishing the number of people.

So do you have an idea of how many people in this development would be drivers? Because you told Mr. Mahoney that you didn't.

THE WITNESS: That was a long question.

MR. SCHUDA: Yes, it is.
THE WITNESS: Could you perhaps break it down into maybe a simple question?

MR. SCHUDA: Okay. How many people do you believe will be driving in this development?

THE WITNESS: I have no idea.
MR. SCHUDA: Okay. But you said the manual references the number of people.

THE WITNESS: I don't believe I said
that.
MR. SCHUDA: Okay. Maybe I -- does that sound right, Mr. Marlier? Did he reference that?

MR. MARLIER: He referenced a lot.
MR. SCHUDA: Okay. Well, if I
misunderstood you, then $I$ missed it, but $I$ thought there was some reference to the fact that you said you did not know how many drivers would be there, $I$ agree there, but the reference was that the manual had reference to similar developments that had developments of this nature could tell you you would have 2.1 drivers or whatever the number would be.

THE WITNESS: So $I$ can clarify the record. It really does not work like that.

For certain land use codes, ITE may make available different variables that you can choose to input into the model to get an output of number of trips.

And, for example, if you have a large industrial site, that might be expressed in thousands of square feet of floor area or
acres.
So they might make both of those variables available, but if you really look at the data, the number of empirical studies backing up either approach is usually different.

So one is typically more robust and probably a better predictor of total trips.

In my experience, for residential developments, it's number of units that is most commonly the variable that is chosen to predict the traffic associated with a residential development.

And whatever the number of bedrooms is, whatever the number of residents, however many cars they own or don't, however many Amazon trips or garbage truck trips, it's all baked into the data.

It's all in the observed traffic counts that is then compared to whatever the unit count is of that existing community, bundled up and submitted to ITE for them to review and consider.

So $I$ really don't know. I don't
believe ITE prognosticates.
But even if they did, it really doesn't matter, because the variable that has the most robust number of studies is typically unit count, and that's it.

MR. SCHUDA: So unit count, in other words, will give you 38 units. There is no associated number of drivers with 38 units. Is that what I'm hearing?

THE WITNESS: NO.
MR. SCHUDA: No what?
THE WITNESS: No, that is not what you are hearing.

MR. SCHUDA: What am I hearing then? Maybe I'm just missing the point here. I don't know if others question this as well.

THE WITNESS: Well, the hour's getting late. So the number of units is usually the variable entered into ITE models to produce a predicted number of trips during these peak hours. That's the only thing that's entered.

You don't enter the number of adults driving. ITE does not give an output of
the number of adults driving. It just says 38 attached single-family homes, 20 peak hour trips. That's it.

MR. SCHUDA: That's a very broad assumption.

THE WITNESS: It's not an assumption. It's based on, in some cases, hundreds of real world empirical data that others submit to ITE for their impartial consideration.

They have no affiliation with applicants. They have no affiliation with builders.

MR. SCHUDA: I understand. Is that a public document?

THE WITNESS: It is. It's not cheap. I could lend you --

MR. SCHUDA: No, no. But, I mean, is it, like if $I$ went to the library, could I access that?

THE WITNESS: I don't know. I doubt it. You could go to ITE.org.

MR. SCHUDA: Okay. Thank you.
THE WITNESS: Anyone can order it.

MR. SCHUDA: Okay. I appreciate it.
No more questions.
MR. RICE: Kaitlin Silver?
(No response.)

MR. RICE: Gregory Szary?
MR. SZARY: Yes. Gregory Szary, S-Z-A-R-Y, Forrest Lane, 6 Forrest Lane.

I have several questions for you, and most of them are going to focus on Strafford Avenue and its relationship to the traffic in and out of the development.

So at this point, the plan we're looking at has two driveways for this loop road, the internal drive; is that correct?

THE WITNESS: Yes.
MR. SZARY: And those enter and exit on Strafford Avenue only; correct?

THE WITNESS: Yes.
MR. SZARY: So people coming and going to this site on Strafford Avenue have a choice of going east on Strafford or west on Strafford when they leave?

THE WITNESS: East or west, yes.
MR. SZARY: And when they're arriving, they're coming from the east or the west; correct?

THE WITNESS: Yes.
MR. SZARY: Okay. If we follow Strafford Avenue to the west, it intersects Hedgerow Road; correct?

THE WITNESS: Yes.
MR. SZARY: And that's where you conducted one of your traffic studies?

THE WITNESS: Correct.
MR. SZARY: Is Hedgerow Road a through street?

THE WITNESS: NO.
MR. SZARY: So the traffic heading down Strafford Avenue going west would not likely turn onto Hedgerow unless they were visiting somebody who lived on Hedgerow?

THE WITNESS: Correct.
MR. SZARY: Okay. The next intersection is Strafford and Grant, and you did a traffic study at that location; correct?

THE WITNESS: Yes.
MR. SZARY: Is Grant a through street?
THE WITNESS: No.
MR. SZARY: So the same scenario.
Only people that would be visiting someone on Grant Street would be turning down Grant Street; correct?

THE WITNESS: You're batting a thousand.

MR. SZARY: Okay. So that all of the traffic leaving the site heading west on Strafford continue to the next available road, which is Old Eagle School Road; correct?

THE WITNESS: Yes.
MR. SZARY: And you did not do a study considering Old Eagle School Road; correct?

THE WITNESS: It's not part of the township. That's correct.

MR. SZARY: Is the township a definitive line that you're not allowed to cross for these studies?

THE WITNESS: In my experience, when you prepare an application in a township,
you do tend to focus on that township, but not always.

MR. SZARY: Not always. So a property such as this that literally borders the township line may consider an intersection that is outside of the township if it is one of the two possible paths leading away from the site; correct?

THE WITNESS: That's correct. And as you probably heard earlier during my cross, I pointed out that it's the closeness of the next downstream intersection that is one of the variables traffic engineers use to decide whether or not to include it.

The second variable is whether or not those subsequent downstream intersections have more total traffic or possibly have more total traffic than the nearer intersections, because all that does is serve to further dilute the impact of the site and make it that much less likely that the impact of those intersections will be measurable.

MR. SZARY: I understand.

THE WITNESS: Okay. Good.
MR. SZARY: Thank you. So then the other end of Strafford Avenue, Strafford Avenue intersects Eagle Road, and you did a study at that location; correct?

THE WITNESS: I did.
MR. SZARY: Okay. And Strafford
Avenue continues on and intersects Lancaster Avenue.

Did you do a traffic study at that location?

THE WITNESS: No.
MR. SZARY: Okay. So a majority of the traffic heading east on Strafford Avenue have an option of turning onto Eagle Road or going straight to Lancaster Avenue.

So 50 percent of the people leaving Strafford Avenue on average may drive through the intersection of Eagle to Lancaster Avenue; correct?

THE WITNESS: That's possible.
MR. SZARY: Wouldn't that have a consideration on traffic flow and evaluation of traffic counts?

THE WITNESS: I don't know what you mean by "consideration."

MR. SZARY: Well, the efficiency of the roadway relative to the added number of vehicles generated by this property.

THE WITNESS: As I just testified, which was a repeat of an earlier cross-examination, I've given the best answer $I$ can as to why $I$ chose the study areas.

You may keep asking me these questions, but I'm not sure I'll give you a better answer.

MR. SZARY: Okay. Thank you. Does the traffic study consider existing through traffic on Strafford Avenue?

THE WITNESS: Of course.
MR. SZARY: And as you've stated earlier, you did not consider the retail activity generated by, say, the farmers market for added traffic onto Strafford Avenue?

THE WITNESS: It appears the farmers market was closed during the traffic counts
and would have been not contributing to at least one of the peak hours, even if it were open.

MR. SZARY: Okay. A lot of people answered, already asked these questions, so I'm going to filter through these. Bear with me a moment, please.

THE WITNESS: Of course.
MR. SZARY: When traffic flows through --

THE WITNESS: While we're on the notion of the farmers market, $I$ have not been to the farmers market, but Google Maps, as well as the farmers market's own website, says they're open three days:

Wednesday, from 6:00 to 4:00; Friday, 6:00 to 4:00; and Saturday, 6:00 to 4:00.

MR. RILEY: Yes. Everybody knows that.

THE WITNESS: Well, earlier one of the residents pointed out other days.

UNIDENTIFIED SPEAKER: No, they didn't.

THE WITNESS: Yes, he did. Okay. It
will be in the record.
MR. RILEY: Thank you.
MR. SZARY: Now, let's see. That can't be the last.

You had indicated that you did not take credit for traffic, I'm trying to recall the words, but people leaving the site and visiting some of the adjacent retail.

I believe you were alluding to the fact that they may do it on foot rather than vehicular.

THE WITNESS: Well, I specifically said I took no credits for the existing residential activity on the site, and I took no credits for potential mass transit patronage relative to the nearby SEPTA Route 106 and the nearby regional rail.

I think later during the course of my direct we just happened to point out that sheet four of $A-12$ shows that there is a proposed pedestrian connection to a retail opportunity to the south, and it is possible that what may be some automotive
traffic could instead become a pedestrian trip and utilize that path to patronize the shops to the south.

MR. SZARY: All right. So conversely to that, there may be additional traffic on Strafford Avenue related to, and we talked already about the potential for the farmers market, but the train station as well, people accessing the parking lot for the SEPTA train station, the entrances off of Strafford Avenue.

The only entrance is off of Strafford Avenue for that southern side of the train station. So in the morning --

MR. RICE: Mr. Szary, is there a question there?

MR. SZARY: Yes. I'm asking if he considered the fact that in the morning that there will be additional cars on Strafford Avenue trying to get into the parking lot not only to park the car and get on a train, but also to drop people off.

So there's going to be a greater
number of vehicles using Strafford Avenue than what the train station parking lot may indicate. Was that taken into consideration?

THE WITNESS: The short answer is, yes, we conducted traffic counts along Strafford Avenue, obviously, some of that activity going to and from the train station, so it was baked into the traffic counts that were done.

MR. SZARY: Okay. Thank you. The traffic counts identified in ITE, the variables, those variables are a conglomeration of input derived by other professionals such as yourself submitting to ITE; is that correct?

THE WITNESS: That's my understanding, yes.

MR. SZARY: Okay. And those are sort of, so they took all those numbers and create an average number to be able to generate this variable?

THE WITNESS: Depending on how robust the data is, they will offer a linear
fitted curve and a nonlinear fitted curve.
MR. SZARY: Okay. So those numbers can vary from what their projections are. It could be higher, and it could be lower; correct?

THE WITNESS: Are you asking me if real world counts?

MR. SZARY: Real world counts.
THE WITNESS: Yes. All things are possible.

MR. SZARY: Okay. So given a particular scenario and neighborhood structure, it's possible that the numbers could, in fact, be different, the actual numbers could, in fact, be different than what ITE, the figures that you're using for your calculation?

THE WITNESS: As I said, it's possible.

MR. SZARY: Thank you. For internal traffic flow, let's take a look at the internal road now.

Do we know, do you know how mail will be delivered to the residences on this
road, on the internal drive?
THE WITNESS: As we are at conditional use, $I$ have not gotten into that minutiae of detail.

MR. SZARY: If the mail is delivered to a central location -- I'm speculating, and $I$ want to ask your opinion about this.

If the mail is delivered to a specific location within the property and residents are required to go to that location to pick up their mail or drop off outgoing mail, could that affect how your numbers are calculated based on how people use the Drive $A$ and Drive $B ?$

In other words, if that mail center was closer to Drive $B$, would people tend to use Drive $B$ more frequently to stop at the mail center in the mornings to drop off and the evenings to pick up?

THE WITNESS: Well, we're certainly getting in the weeds now, but it's certainly possible that the internal road activity could be different if the mail was delivered that way.

Whether or not it would have any meaningful impact at the internal drive intersections with Strafford, I think, remains to be seen. Probably not.

MR. SZARY: Okay. I question that, but we can't get into the weeds at this point in time till we know more. I'll leave that alone for the moment.

The last question for you is, the existing site contains some dwelling units currently; is that correct?

THE WITNESS: Yes.
MR. SZARY: Looking at an aerial photograph, it looks like there may be two or three residential units in addition to greenhouses, garages, and other uses on the site.

So if the existing site had, let's say, three dwelling units, and those dwelling units had the average number of vehicles and people based on the ITE requirements and the proposed development has 38 units, we're looking at almost three times the number of vehicles, vehicle
traffic leaving or entering Strafford Avenue than currently.

Is that a correct statement?
THE WITNESS: I disagree with that statement.

MR. SZARY: Can I ask for an explanation?

THE WITNESS: Certainly. I believe there's actually a total of six residential units or dwellings. I think you're looking just at the buildings.

My understanding, the, what's referenced as the German house has four apartments and that there are one or two other apartments as well, one above the garage, $I$ believe, and in addition to that activity, there was a greenhouse.

This was a working estate at one point. There were staff that were coming and going and generating employee-type traffic, if you will.

So I think you may have under-represented the potential relationship. I don't think it's
tripling.
MR. SZARY: So it would be a factor, an increase by some number?

THE WITNESS: Yes, um-hum.
MR. SZARY: That's all I needed to ask. Thank you very much.

THE WITNESS: Sure.
MR. RICE: Sharon and David Willis?
MS. WILLIS: Sharon Willis. You made reference, quite a few references to pedestrian traffic in your testimony.

Did your study include pedestrian traffic or safety?

THE WITNESS: Can you explain a little bit more about what you mean by --

MS. WILLIS: Well, you've clarified. You counted cars going by.

Did you make any counts of pedestrian traffic during your study, pedestrians walking up and down the street?

THE WITNESS: My recollection is that, we have cameras that are programmed to collect data, and $I$ believe they were programmed to collect bicycle and
pedestrian data as well, but there's simply, there was very low or not any at all.

MS. WILLIS: Okay.
THE WITNESS: You need a lot of pedestrian activity for it to have a meaningful impact on level of service.

You can certainly say there's five pedestrians an hour walking along Strafford Avenue, and it would be an interesting comment, but it doesn't really impact the conclusions.

MS. WILLIS: And does the ITE have any data on pedestrian traffic, like any references for pedestrians?

THE WITNESS: Indeed they do. This whole notion of active transportation has gathered a lot of steam in the last two decades.

And whereas all of these nomographs were previously really just vehicles, ITE is now really refining their data, and for certain land use codes, it does offer predictions about bicycle trip generation,
pedestrian trip generation.
It's still relatively new, and numbers are usually quite small, especially for units that are, you know, two or three dozen residential houses might be three or four pedestrian trips.

MS. WILIIS: So last question. So a previous neighbor asked about continuing sidewalks to Lancaster Avenue, and I do appreciate the sidewalks that are going around the development. I think that's wonderful.

But coming down Strafford Avenue towards the direction where I live, the sidewalk ends, and it doesn't connect with any sidewalk.

And my concern, well, my question is, do you think pedestrians can safely walk to the public transportation you referenced?

THE WITNESS: Well --
MS. WILLIS: If there's not contiguous sidewalks?

THE WITNESS: An applicant can only contribute what the applicant controls.

The applicant here is providing a facility to the maximum extent that it can that will benefit all of the existing residents.

Of course, we're here really talking about conditional use of a by-right plan and how it compares with 31 potential single-family detached homes, which incidentally would generate more traffic than what these 38 attached homes would generate. That's really what the focus of this hearing is.

Whether or not $I$ believe having more pedestrian facilities throughout the township at locations that this applicant and indeed maybe no applicant controls, I don't know how it really enters into this.

But I'm under oath, so, obviously, sure. More pedestrian facilities probably creates a better pedestrian environment.

MS. WILLIS: Thank you very much.
THE WITNESS: You're welcome.
MR. RICE: Cheryl Lutz?
(No response.)

MR. RICE: Okay. That's the resident parties.

Mr. Schuda?
MR. SCHUDA: I just want to redirect one more question.

MR. RICE: Well, let's hold that for a minute.

MR. SCHUDA: Okay.
MR. RICE: And the board had
questions. Okay?
And maybe one of your questions, whatever that is, might get asked by somebody else.

So let's go with, we'll start all the way to the left.

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THE PRESIDENT: Sure. I'll start. I have very few simple questions, I think. Who decides which intersections to study on a traffic study?

Is it you or your company, or is it suggested that these are busy intersections around? Or how is that determined?

THE WITNESS: So there's really no one-size-fits-all answer to that question, because you might have a study area where the intersections are very widely spaced. It could be a mile apart from one another.

So to say you should look at every intersection in a half mile radius could be meaningless in a case like that.

Likewise, you could be in really an urban environment where you have incredible density.

So the general rule is, as I believe I stated earlier, obviously look at the intersections that are closest and most impacted, and then you have to exercise some engineering judgment about how far you're going.

A traffic engineer would probably love to look at a hundred intersections in every study. They could be very busy.

But the reality is, if you don't have
meaningful impact at the closest intersections, you probably don't have to go much further.

Anyone can reasonably think maybe $I$ have a problem with bias because I'm here representing the applicant, and the only thing I can say to that is, those persons could take some comfort in knowing that the township traffic engineer formerly acknowledged that this was conducted in accordance with general traffic engineering principles.

He went so far as to restate the conclusion in Exhibit A-20. So I believe the study area is reasonable, and that's essentially how it was decided.

MR. RICE: But who decided? I think that was the question.

THE WITNESS: It was my decision.
THE PRESIDENT: Yes. He alluded to that. Let me think how to phrase this next question.

I think that what you've heard from some of the residents is that there are, in
fact, much busier, more complicated intersections close or closer than the ones you've studied.

Did you have any look at those at all, the ones at Eagle, I mean, Strafford and Lancaster?

THE WITNESS: NO.
THE PRESIDENT: Okay. Is there a crosswalk at the intersection of Eagle and Strafford, a pedestrian crosswalk? Sorry. I believe $I$ know the answer.

THE WITNESS: I believe there is. The markings are very faded. This is an all-way stop controlled intersection.

THE PRESIDENT: Correct.
THE WITNESS: So every approach has to stop. There are stop signs. There are stop bars.

And there is only -- there are only two sidewalks and two ADA ramps, and they are on the northwest corner where those new homes were built.

As I'm sure you know, townships usually do a piecemeal approach.

THE PRESIDENT: Sure. No, I get that. Can you tell me if Eagle Road is a PennDOT road or a township road, and the same with Strafford.

THE WITNESS: Strafford is not. I believe Eagle is, but $I$ would need to check that.

THE PRESIDENT: Okay. That's it for me.

MS. AGNEW: Hi. Did you take into account that the traffic from the shopping center empties onto Strafford Avenue, the ingress and egress onto Strafford Avenue?

THE WITNESS: Essentially, yes. Any driveway along Strafford, along Eagle that is contributing traffic was reflected in the traffic counts.

MS. AGNEW: But not for Saturday or Wednesday or Friday.

THE WITNESS: Correct. That is correct.

MS. AGNEW: What year is the manual that you use? What year is that published?

THE WITNESS: Well, in my haste to
come here tonight, $I$ actually, just for visual purposes, grabbed the $10 t h$ edition, I'm noticing now, which was published September 2017.

A-20 actually makes reference to the 11th edition, which $I$ believe was published 2020 or 2021.

MS. AGNEW: It's 2021. That was two years before the traffic study?

THE WITNESS: Yes.
MS. AGNEW: And is that taken into consideration, the change in traffic because of COVID, because of people working from home?

THE WITNESS: It's certainly potentially possible, depending on, as $I$ said, ITE is always receiving data, and since the pandemic really had its greatest effect in 2020, if something was published two or three years later, it's potentially possible that some empirical data was included.

If anything, as $I$ believe maybe some of the residents may have alluded to, some
traffic seems to be going down.
People tend to be working hybrid days and not always commuting every day like maybe they did in 2019.

There may be an increase in online shopping activity, which could have the effect of reducing traffic as well.

The Amazon van in my neighborhood doesn't just come to my house. They stop at several locations.

And instead of having several people make individual shopping trips, now you have one van replacing all of those individual trips.

So, if anything, $I$ think you could offer an argument that the most recent editions of the trip generation manual could overstate the traffic activity.

MS. AGNEW: And it could understate as well, couldn't it? Because you're speculating one way or the other.

THE WITNESS: I am speculating, but I'm not sure how $I$ would speculate the converse.

I also have with me tonight other traffic studies that were performed by other traffic engineers in this township relatively recently, and they, too, made use of the llth edition of the trip generation manual, for example.

MS. AGNEW: And when you visited St. Honore, which you referred to in your testimony, was there going to be a problem with traffic, increased traffic from the St. Honore development?

THE WITNESS: Was there going to be a problem?

MS. AGNEW: Yes. Was there going to be more traffic because of St. Honore?

THE WITNESS: St. Honore, you know, being about ten single-family homes, will contribute, it will contribute some traffic, but it's not going to have a meaningful impact in terms of making things significantly worse.

It was included in $A-20$ as other development traffic. And as the Level of Service Comparison Tables show, the needle
didn't even move.
I mean, the predicted delays, the predicted letters, level of service, didn't change. That's with the addition of this applicant's traffic and St. Honore's traffic.

MS. AGNEW: And so that's taken from an estimate that's in the book, or is that actual counts that you did?

In other words, put it this way. How many houses? Is it ten houses in St.

Honore? Fourteen houses?
THE WITNESS: Yes. My report dated 14 September 2022 does reference 14 units.

MS. AGNEW: Fourteen units. Okay. With regard to the train station, the Strafford Avenue train station, that would reduce traffic if people use the train?

THE WITNESS: It's possible.
MS. AGNEW: Possible or probable?
THE WITNESS: If people use the train station instead of taking their cars, say, to center city, then certainly some intersections between their home and center
city will not have that automotive traffic. Of course, there will still be some automotive traffic along Strafford between their home and the rail station.

MS. AGNEW: It would increase -- it would, therefore, it would then increase the traffic on Strafford Avenue going to the train station?

THE WITNESS: If they chose to drive there.

MS. AGNEW: Could they walk to the station?

THE WITNESS: They could.
MS. AGNEW: Would it be safe?
THE WITNESS: As a pedestrian, you're allowed to walk to anyplace.

MS. AGNEW: That's not my question. Could they walk safely?

THE WITNESS: It would be safer if there were sidewalks, sidewalks beyond the applicant's frontage, sure. That could be built today, irrespective of this application.

MS. AGNEW: Thank you.

THE WITNESS: You're welcome.
MR. LARKIN: Do you know if Drive A and $B$ will receive street names?

THE WITNESS: I really -- I'm typically not involved in that, so $I$ don't know. I mean, that's probably more land development.

MR. LARKIN: Would it be normal for them to receive street names?

Are these homes all going to be 123 Eagle Road, 223 Eagle Road, 323, or are they going to have some street name?

THE WITNESS: I really don't know.
MR. LARKIN: Who would know that?
THE WITNESS: It might be a better question for the civil engineer, $I$ mean, but $I$ have never gotten into that in my experience.

MR. BROSEMAN: I would suggest that's a question for land development and permitting, not a conditional use.

There's many communities like this in Pennsylvania, and they, the units get addresses. It's usually worked out at the
time of permitting, in my experience.
MR. LARKIN: Okay. I'm hearing I don't know, so I'll address the question to someone else.

Is there going to be a speed limit for Drive $A$ and Drive $B$ ?

THE WITNESS: It's possible.
MR. LARKIN: Do you know what the speed limit would be?

THE WITNESS: NO.
MR. LARKIN: How would the speed limit be signed?

THE WITNESS: I imagine with standard post-mounted signs.

MS. MULRONEY: Can you move your hand?
THE WITNESS: I imagine with standard post-mounted speed limit signs.

MR. LARKIN: How would the speed limit be policed?

THE WITNESS: I don't know.
MR. LARKIN: Would it be the police?
THE WITNESS: I don't know.
MR. LARKIN: Are there going to be any crosswalks across Drive A or across B to
get from the side without sidewalks to the side with sidewalks and vice versa?

THE WITNESS: Possibility.
MR. LARKIN: As a traffic engineer, do you think that they would be a good idea?

THE WITNESS: Perhaps.
MR. LARKIN: Is there a reason why you don't have an answer for that other than "perhaps"?

THE WITNESS: Because there are situations where you have driveways that do not have striped crosswalks, and you have sidewalks on either side.

MR. LARKIN: Keeping up page four of 17 on $A-12$ and turning to page 11 of your report, $I$ see on sheet four of 17 in

Exhibit A-12 what looks to be like one, two, three, four, five parking spaces in the southeastern parking area and what look to me like nine spaces in the southeastern parking area on page 11 of your report.

Can you explain the difference?
THE WITNESS: The evolution of the site plans from when my report was
published to the present.
MR. LARKIN: Okay. Page four of 17 in sheet A-12 has 38 townhomes, I believe; is that correct?

THE WITNESS: It sounds correct.
MR. LARKIN: And your report on page 11 describes a 38-townhome development; is that correct?

THE WITNESS: I'll take you at your word.

MR. LARKIN: When I look at the image on page 11, I count 39 townhomes.

Is the image on page 11 an older version of the plan that you relied on while you were creating your report?

THE WITNESS: Yes.
MR. LARKIN: Is there a reason why you used the older version of the plan and not the newer version of the plan?

Or perhaps since we're getting a little bit late in the evening, I'll just cut to the heart of it.

In evaluating the plan and reaching the conclusions that you did, did you rely
on the older plan, which is depicted on page 11, or the newer plan, which is depicted on sheet four of 17 of Exhibit A-12?

THE WITNESS: So page 11 of $A-20$ is meant to aid the reader in giving some illustrative sense of what the project is about.

It's not intended to be a substitute for the plan set. And obviously, as I said earlier, plans do have an evolutionary nature.

The extent to which $I$ relied on this figure in my work product was very little, if anything, because again, this was an instrument just to benefit the reader in orienting him or herself as to the project.

As you correctly pointed out, I believe, this may have been showing 39 units.

So if $I$ did rely on this plan to any extent, it is actually conservative and overstated the trip generation potential.

MR. LARKIN: Okay. This image calls
the drive Road A and Road B. Sheet four of 17 on Exhibit A-12 calls them Drive $A$ and Drive B.

They look to me, with the exception of the number of parking spaces in the southern, southeastern parking area, to be substantively identical.

What is the difference between the two from a traffic engineering standpoint?

THE WITNESS: Nomenclature.
MR. LARKIN: Could you expand on that?
THE WITNESS: Yes. There really is no difference. It's just strictly nomenclature.

MR. LARKIN: So if we called it a street, it would be a street, and if we called it a drive, it would be a drive?

THE WITNESS: If you chose to do that, sure.

MR. LARKIN: Do driveways typically have speed limits?

THE WITNESS: I believe if you have a residential community with internal drives, it's possible there might be posted speed
limits, depending on the size of that community.

MR. LARKIN: When you say "internal drives," those are not the drives that lead to houses though; right?

I don't want to testify too much, but there's no speed limit in my driveway.

It's like 30 feet long, but if you think you can do a hundred miles per 30 feet, you're welcome to do so.

THE WITNESS: I'm not talking about individual driveways. I'm talking about common drives.

MR. LARKIN: Okay. That's all I've got. Thank you.

MS. MULRONEY: Hi. Just picking up a little bit on drive versus street, I have a different question.

When I look at any of the plans, it looks like it starts from one point and circles all the way around to another.

Why is it two names, whether it's Road A or Road B or Drive A or Drive B?

Is there any division of those two
drives that create two different drives that require two different nomenclatures, or is it one path through?

THE WITNESS: I really don't know. I did not prepare the plans as to why they have different designations.

MS. MULRONEY: Thank you. Are you seeing the plans the same way $I$ am, that it's a full throughway?

You can start at one end, make it all the way to the other without hitting any divisions?

THE WITNESS: I understand what you're saying, yes.

MS. MULRONEY: Okay. Are there -- so we talked a lot about how many cars could be side to side on the individual driveways.

So at the length -- the numbers are really small. I'm trying to remember.

The length is 20, and the width is 19 for the smallest, and then there's some longer ones on the corner.

THE WITNESS: Exactly. It appears
some are 22 feet deep and some are maybe 60 or 80 feet deep over a curvilinear distance.

MS. MULRONEY: On the shorter ones, the 20, how many cars could be parked end to end, nose to tail, behind one another?

We talked about side to side. I get that. Can you park two cars in front of a garage?

THE WITNESS: Only if they were very small cars.

MS. MULRONEY: Small cars. So it's a possibility, doing the math, two cars in the garage, four cars in the driveway per unit for parties, visitors, residents, whoever, but potentially on the smaller ones, you could get six cars, do you believe?

THE WITNESS: It would be a stretch.
MS. MULRONEY: Six small cars.
THE WITNESS: I have --
MS. MULRONEY: When $I$ drove in, somebody has a Smart Car out there.

THE WITNESS: That's mine.

MS. MULRONEY: Is it?
THE WITNESS: I shouldn't say that, because now I'm a target. But I could fit four of those, for sure.

MS. MULRONEY: Yes.
THE WITNESS: It's a great car, by the way.

MS. MULRONEY: I have heard good things. So is there -- are there other parking spots in the plan that aren't driveways in front of a house?

Are there visitor spots? Are there -is there parking along the drive?

THE WITNESS: Yes, I believe there are.

MS. MULRONEY: Do you know how many?
THE WITNESS: I think it's ten.
MS. MULRONEY: I won't hold you to it, but about ten?

THE WITNESS: Ten.
MS. MULRONEY: And I think, I'm looking at the plans, there's a bump-out on, $I$ don't know the direction, but I'm going to call it the lower right, depending
on which plan you're looking at, there's a few cars there, and then also on that other curve on the lower left, there would be parallel parking around that curve.

Is that -- are we reading the same?
THE WITNESS: Yes. We're looking -the projector shows sheet four of $A-12$, the bottom center, there's a parking summary table.

The parking is code compliant, and it's actually broken down by units and the overflow parking spots.

MS. MULRONEY: So I notice that your office is in Wynnewood.

Do you do plans in your work or maybe in your firm, do you work locally here? Is most of your work on the Main Line?

Are most of the studies you do in the Main Line area, Radnor and beyond?

THE WITNESS: I would say most of my effort, most of my process, $I$ book about 30 jobs a year, so I've done about 600 on my own for the last 20 years, and most of them are probably within a $30-\mathrm{mile}$ radius.

MS. MULRONEY: Have you ever been
hired to come back and -- I've heard someone speak, $I$ think it was in cross, about doing a post-development study.

Have you, in your experience, ever been hired by either a developer or a township to look again after a development has been built to kind of compare your studies and see accuracy, changes, that sort of thing?

THE WITNESS: That's actually a very common, or at least at one time was a common requirement in Lower Merion Township.

They actually would require an applicant to escrow for a post-development traffic study, and often enough $I$ was asked to do that. So, yes.

MS. MULRONEY: And what is your success rate? Anecdotally, do you think that your post studies kind of jive with what you had presented to start with?

THE WITNESS: Well, so first, to be clear, the post-development traffic study
is never a quantification of driveway activity to compare it to the ITE predictions.

MS. MULRONEY: NO, I'm not talking driveway now. We're off driveways. Road traffic.

THE WITNESS: So usually the requirement is if there's one, two, three intersections that were studied, that you go back, after everything is built and occupied, and do new counts and see whether or not things are better or worse or similar to what you predicted.

It's never been significantly worse. It's never been significantly better. It's always pretty much been in that range.

And it's not entirely surprising, because there's other contributions to the traffic picture. It's not just this one application.

So if you're doing a count on Montgomery Avenue, I'm picking on Montgomery Avenue, I mean, you've got 2,000 vehicles an hour going in two directions.

If you have a 60-unit attached housing condos, it sounds like a lot. In the big scheme of things, it doesn't really have much impact, and it's always been proven, in my experience.

MS. MULRONEY: I think all of my other questions were asked by others. Thank you very much.

THE WITNESS: You're welcome.
MR. RILEY: Hi.
THE WITNESS: Hello.
MR. RILEY: Are you from this area? I guess you just said that. Nearby.

THE WITNESS: I was born and raised in southwest Philadelphia.

MR. RILEY: So $I$ know in the traffic study, certain ones you didn't do. You didn't do Strafford down to Old Eagle.

That road is used as a cut-through, Strafford, to get to Old Eagle to get away from Lancaster Pike.

Also, people have mentioned where Eagle Road hits Lancaster Avenue, there's a Wayne Farmers Market.

I think a better weekday would have been Wednesday or Friday, Saturday also works, if you want to see traffic.

I know the study that you did, you projected 274 trips, daily trips.

I know those two spots I just mentioned are outside your study, but they already are bad, so it's certainly going to add to that.

Also, I think somebody mentioned sidewalks. It would be nice to have sidewalks leaving the place to get to the train station, so then people would be using it more, don't you think?

THE WITNESS: Certainly. I mean, that could certainly be pursued. It has nothing to do with this application. It has nothing to do with any of the existing residents along Strafford Avenue.

That's a facility that can be pursued at any time by any entity, whether it's the township, PennDOT, whoever wants to do the work.

An applicant can only do what the
applicant can control. And again, we're really getting more into land development, in my opinion, than conditional use.

This proposal generates less traffic than what the single family -- 31 singlefamily homes, according to ITE, will generate meaningfully more traffic than 38 attached homes.

It's not my opinion. I didn't come up with that. That's what ITE says.

So if you're really deciding whether or not this is better for the community versus the single-family homes, forgetting the sidewalk issue, this generates less traffic, and the applicant is offering to provide what appear to be desperatelyneeded pedestrian facilities to the extent the applicant can.

MR. RILEY: Thank you.
MR. COATES: Hey, how are you doing?
THE WITNESS: Fine, thank you.
MR. COATES: I know it's been a long day, so I'll try to be fast. My questions are more just to help me understand your
report.
So in page three, you talked about the peak trip generation, and then in the conclusion, it says there's no measurable change in performance, like this won't have really any meaningful impact.

What would be "measurable"?
THE WITNESS: So to answer your question, $I$ made reference to page eight of A-2 0 .

Something measurable would be something that doesn't generate those little double hyphens, something where $I$ can actually use my computer program and see that there's an increase in delay.

And even then, you know, 20 versus 21 or 20 versus 24 seconds, just like in your own experience.

If you go through an intersection and you happen to wait 20 seconds, and then the next day you go through and you wait 20 percent longer, which is four additional seconds, no one is going to notice that.

MR. COATES: I'm trying to understand.

Twenty-four seconds is a long time. Let's just use p.m. peak as an example, right, the 22 trips.

Does that need to be 50 to be measurable, or does that need to be a hundred, or does it need to be like 26?

THE WITNESS: I mean, I didn't do the analysis that you're asking, but looking in the context of what I'm seeing, the level of service, $I$ think it's probably closer to a hundred really.

MR. COATES: Closer to a hundred. Thank you. Like 20 percent to goal. That's the way people in my world think about it.

So second question. The study is based on this A-12 document, is that correct, the A-12 plan?

And the picture on page 11, for example, appears irrelevant. The A-12 plan is what you used as the basis for the study?

THE WITNESS: The study is largely hinged on unit count and driveway number,
driveway placement.
When you get into little details like the sidewalks and the off-street parking, it doesn't really affect $A-20$ as much.

MR. COATES: The reason I'm asking, there's multiple plans submitted, so it's hard to keep track of like what's what.

So there is a plan with access to Eagle Road. Would that change the outcome of your report at all?

THE WITNESS: That's a very good question. So the only result from having a driveway directly onto Eagle is any traffic that is, for example, exiting Drive $A$ or Drive $B$ and turning right and going toward Eagle and it then also turns right to head south toward Lancaster, that traffic would more than likely reassign itself to the shortest path, mainly that Eagle Road driveway.

So if that traffic is going to Lancaster anyway, the only real difference is going to be the impact at Eagle and Strafford, because you're removing a trip
from that location.
MR. COATES: Right.
THE WITNESS: So, first of all, not all of the traffic is going that way. Maybe 20 percent, 25 percent might be doing that.

We're talking about 20 total trips in both directions. The long and short of it is, it's not going to have a meaningful --

MR. COATES: Not meaningful, because we need to be at a hundred; right?

We talked about the difference between the 20 s and the hundred, and then the impact of an extra driveway probably wouldn't have an effect.

THE WITNESS: Well, you're probably teaching me a lesson tonight that maybe $I$ overused the word "meaningful."

MR. COATES: Don't give me that much credit.

THE WITNESS: Again, I'm making reference to the Level of Service Comparison Table in $\mathbf{A} \mathbf{- 2 0}$.

If there's no difference with the
traffic all being added, with this traffic all being added to that intersection, obviously subtracting some of it is not going to have any impact either.

It's still going to be no -- that's the only way $I$ can answer it.

MR. COATES: NO, I understand. Thank you. And then I guess I had one other question, and this is just to educate me.

You mentioned that 31 singles would bring significantly more traffic based on the handbook. Why is that?

THE WITNESS: Again, I didn't publish it, so I'm just speculating. But, you know, it really is significant. I ran the calculations. They're not in A-20.

But instead of 18 trips in the morning, it's 26 with 31 detached houses, so it's a 50 percent increase, enough to be meaningful.

But it's 50 percent more. In the afternoon, it's 38 instead of 22.

And my only speculation is that perhaps single-family detached houses are
larger than attached houses; maybe they are, therefore, more expensive.

Maybe it is less likely that a single occupant would buy one. Maybe it's more likely to host a family that has multiple drivers. I'm just speculating, but that is what the answer is.

MR. COATES: Well, I appreciate the answer, and I appreciate your time. Thank you. That's all I have.

THE WITNESS: You're welcome.
MR. RICE: Mr. Tavani, I've got a couple of questions.

## CROSS EXAMINATION

MR. RICE: You referenced Gilmore's traffic engineering review letter. I think you have it here with you somewhere.

What's the date on that letter?
THE WITNESS: August 1st. I believe it's marked as A-9 B.

MR. RICE: August 1st?
THE WITNESS: August 1, 2023.

MR. RICE: Okay. And do you have A-12 there in front of you, too?

THE WITNESS: I sure do.
MR. RICE: So sheet 12 , if you go to sheet 12 , you were asked some questions about truck-turning template plans.

Is that sheet 12 ; right?
THE WITNESS: Yes. I'm looking at sheet 12 of $A-12$.

MR. RICE: Did you have any input on these turning template plans, or was that all Mr. Lambert?

THE WITNESS: It was really all Mr. Lambert. Occasionally, the traffic engineer and the civil engineer talk about this, and if there's a problem that needs to be addressed, then there might be some more --

MR. RICE: Have you looked at this?
THE WITNESS: I looked at it, but I didn't prepare it. I didn't consult with any township personnel about the vehicles that were chosen.

MR. RICE: Okay. But you don't have
an opinion whether it's accurate or it's a safe turning plan at this point; is that right?

THE WITNESS: I really don't. My hands are full with just the traffic study.

MR. RICE: All right. And then you were asked, and I'm still curious, because this is the second application, and this paved area has been called a road, even as of August of last year, as of your May 15, 2023, you call it a road.

Who made the decision to call this a drive from a road, do you know?

THE WITNESS: I believe it was a team decision. I don't know. I can't recall specifically who.

MR. RICE: Do you know whether a drive has different construction standards in Radnor Township under their ordinances than if it's a road?

THE WITNESS: I believe that streets have different standards than driveways.

MR. RICE: Okay. In the township's ordinances; is that right?

THE WITNESS: I believe that's the case. Again, I'm getting a little bit out of my wheelhouse.

Even though it sounds like it's related to traffic, I'm really a very specialized person.

But it's my understanding that like streets have 60-foot right-of-way and they have other --

MR. RICE: Right. Okay. But you didn't look at that.

When the change in nomenclature was made, you didn't, you weren't involved in the change in nomenclature, because that's when Mr. --

MR. BROSEMAN: I'm going to object. Mr. Rice seems to be cross-examining our witness.

MR. RICE: I'm just trying to clarify some inconsistencies, Mr. Broseman. I think $I$ have the right to do that. I'm not cross-examining Mr. Tavani. I just - -

MR. BROSEMAN: I'm objecting for the record. I feel that you're cross-examining
the witness.
MR. RICE: I got it.
THE WITNESS: I didn't prepare the plans.

MR. RICE: Okay. So the sidewalks, just another question came up from some of the residents' questions.

The internal sidewalks or the internal sidewalk, it's on one side at this point, and I think you said it would be safer if there were more sidewalks for pedestrians.

That was, $I$ think, your general opinion. Whether onsite or offsite, you thought it would be safer.

MR. BROSEMAN: I'd object. I don't think he said that as to this plan. I thought he said that the traffic was very low.

MR. RICE: He can answer.
THE WITNESS: I was going to clarify. That statement that $I$ believe you're referring to $I$ believe $I$ made later just in terms of general context in the township, that "more" term.

I think $I$ testified differently as to the internal sidewalk benefit.

MR. RICE: There's some traffic safety in this internal paved area, because you have a lot of what I'll call curb cuts, right, on the outer perimeter, the curb cuts being the individual driveways that are hitting the big paved area, and then you have a sidewalk on the same side.

Do you have any concerns about pedestrian safety with that number of driveways into the large paved area and pedestrians walking along there, cars get parked, and do you have any concern about pedestrian safety?

THE WITNESS: I really don't. Your characterization is not inaccurate. Along the common internal drive there are numerous curb cuts to the individual driveway aprons.

I don't really know that there is going to be hundreds of people walking along the sidewalk, and $I$ also don't know that people exiting or entering individual
driveway aprons are going to be doing so at very high speeds or that they have conflicted lines of sight.

You can see very clearly that it won't be difficult for, $I$ believe, any motorist navigating these internal driveway aprons to see what's in front of them or behind them.

So I don't believe just the number of curb depressions constitutes a safety concern.

MR. RICE: Okay. I don't have any other questions.

Mr. Schuda, did you have anything else?

MR. SCHUDA: Yes.
MR. RICE: Okay. Go ahead. A question. Go ahead.

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CROSS EXAMINATION

MR. SCHUDA: Joe Schuda, 14 Forrest Lane. I want to beat the horse one more time.

I think at least three times in your testimony you referenced the ITE and 31 single homes versus 38 townhomes.

The impact of 31 single homes would generate much more traffic; is that correct?

THE WITNESS: According to ITE, yes.
MR. SCHUDA: Okay. What data and how does that present itself in the ITE manual that you can make, you know -- what are they using to determine that?

I know you said units were the townhomes, so how is the unit of one single home different than the unit of one townhome?

THE WITNESS: I attempted to speculate to this earlier. I pointed out that single-family detached homes, $I$ believe, are typically larger and have a different price point perhaps and for that reason might have a different occupant constituency.

But I'm just speculating, because really -- and I'm not trying to throw ITE
under the bus here. I really respect them as an institution.

But essentially what they do is they collect traffic count data, and they correlate it to a variable, and it's a scatter plot, you know, it's a dot.

So you have the $X$ axis and the number of units, and the $Y$ axis and the a.m. peak hour traffic, and boom, for single-family detached homes, and then they get another one.

And they say, do these people know what they're doing? Did they do this study correctly? Okay. We'll include it, and then they try to fit curves, depending on what their investigative set is.

Whatever the cause is, $I$ don't know. I mean, whatever is causing one type of house to generate more or less trips per unit is God's own private mystery. In fact --

MR. SCHUDA: Is there a glossary in that book that says single-unit homes on average have 1.2 residents, whereas
townhomes have 1.1?
THE WITNESS: There might be. I mean, this is one of three volumes, believe it or not, so $I$ don't really go through this.

I just look at it and apply a variable, get a result, and then $I$ take that as the truth.

And most traffic engineers who review my work for protestants, for townships, have never rebuffed it.

MR. SCHUDA: To Commissioner Myers' point, you know, oh, Commissioner Agnew may have been the one that referenced what edition that was.

The updating and the input to improve the accuracy of the data, $I$ would think that the data set that would make up those statistics would be available to determine, because for us, as residents, or for the township, as a governing body, it's important to understand how many cars are going to be on the road, not just some dart throw into the wind.

So that's all I need to say.

MR. RICE: Thank you, Mr. Schuda.
MR. SCHUDA: Thank you.
MR. RICE: Mr. Broseman, do you have any redirect?

MR. BROSEMAN: I have some questions.

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REDIRECT EXAMINATION

BY MR. BROSEMAN :
Q. Frank, you were asked a lot of questions. We've been going for a long time here, so I'm going to try to hit some of the topics.

You were asked about parking spaces in the garage and in the driveway, and as you're familiar with Radnor Township ordinances, is a parking space required to be nine and a half feet by 20 feet?
A. Yes.
Q. And is there anything in the ordinances that you're aware of that you need extra space as was suggested for opening of car doors and things like that?
A. I am not.
Q. Assuming parking lots in the township are following the code provision of nine and a half by 20 , $I$ suppose some could be larger, some could be nonconforming and be smaller.

But assuming there are striped parking lots that comply with the township regulations, is there any extra spaces between the individually striped spaces that are striped out at that size?
A. No. It's my understanding that typically a parking aisle is just a repeat of that parking space footprint.

In fact, you can see one on sheet four of A-12 just below the units in the lower right corner for the retail shopping center.
Q. And even here in the township's own parking lot, $I$ haven't measured the size of some of the spaces, but if the striped parking spaces out there were nine and a half by 20 , you'd have cars, if they were full, they would be filled up with all of the spaces and they'd be next to one another?
A. Yes.
Q. And you see that at shopping centers
and other uses?
A. Yes.
Q. Do you see problems with them functioning properly and people being able to open doors and such?
A. No.
Q. There were certainly some implications by some of the questions that Strafford Avenue is a busy road.

You mentioned that it's classified by the township as a local street. Do you recall that?
A. Yes.
Q. And in the Subdivision and Land Development Ordinance, which is Chapter 255, 255-27 B is classification of streets, three, I have a copy here.

Is there a hierarchy of street classifications that the township uses in that provision by type?
A. There is. It starts with "expressway," and it ends with "local street."
Q. And does this code provision specifically name streets that are roadways, that
are expressways, arterials, major collectors, minor collectors?

It actually lists out every road which is one of those; is that correct?
A. Correct.
Q. And for local streets, it says all the other streets that aren't referenced above.

So in reviewing this list, Strafford Avenue is not in any of these specific classifications, so it's local; correct?
A. Yes.
Q. And in the hierarchy, that's the lowest-traveled street, the lowest-traffic street. Is that fair to say?
A. In that subsection, yes.
Q. There were questions about having one sidewalk on the side of the internal drive.

Are you familiar with attached dwelling communities or any kind of community to either have no sidewalks at all or one sidewalk on the side of the street?

Is that a common occurrence?
A. It certainly is.
Q. You were asked a question, something
to the effect that if you reduced the number of townhomes from 38 to 30 , would that tend to affect traffic.

Do you recall that question?
A. I'm not sure that $I$ do actually.
Q. Well, there was a question like that --
A. $\quad \mathrm{Oh}, \mathrm{I}$ do recall it.
Q. My question would be, is it necessary in this case to reduce the units from 38 to 30 or any reduction for your opinions that you gave that the traffic would function efficiently in accordance with your report? Is a reduction necessary?
A. No.
Q. You were asked about an older iteration of the plan that was in your study had an additional unit.

You may not have been here at all of Mr. Lambert's testimony, but you can see on Exhibit, the current version of Exhibit $A$-- the current version of the plan at $A-12$, sheet four, there was a home, a unit, a dwelling unit proposed on the part of the property that is 18

Forrest Lane; is that correct?
A. Yes.
Q. And in the current plan, that was removed, and now that's been made green space, place for additional stormwater management; is that correct?
A. Yes.
Q. You were asked questions about the number of occupants that could live in the dwellings, and you confirmed that that's not done that way, and if you were to do the study based on that, your opinion is that township traffic engineering consultants would not accept that; is that correct?
A. Yes.
Q. Going down that type of road, however, there was speculation perhaps that several people could live in a unit and there could be traffic.

Is it possible that units could be occupied by one person, two people, instead of many people?
A. It is.
Q. Is it possible, especially in units like these, that they could be empty for large
periods of the year while people are away at other homes or other locations?
A. That is possible.
Q. Is it possible some of the occupants of the units could be elderly and either don't drive at all or drive in a very limited fashion?
A. Also possible.
Q. And there's, of course, possibilities that units could be occupied by more people along the lines that people were speculating.

That's possible as well, I think you said?
A. I did.
Q. But given those examples, does that help illustrate why you don't do it that way, because there is such variation, and you follow the ITE standards instead?
A. That is certainly one of the reasons. It's also because the number of studies is very robust.

In some cases, you have a more robust data set for a particular variable. And for homes, dwelling units is typically the best indicator.
Q. You mentioned you did the St. Honore study. That was submitted to the township as part of a land development process, I take it?
A. Yes.
Q. And did you use an ITE manual in that case to estimate the trip generation?
A. I did.
Q. And was that accepted by the township when they approved that development?
A. It was.
Q. And in St. Honore, those were single-family detached dwellings; correct?
A. Yep.
Q. You mentioned that ITE says that there's generally higher traffic for singlefamily detached dwellings; is that right?
A. Yes. The trip generation rate per unit is greater than for attached homes.
Q. And did you use that, and was that accepted by the township in the $S t$. Honore study?
A. Yes and yes.
Q. You were asked about if certain driveways have speed limits or speed limit signs.

Aren't there plenty of private facilities, they could be clubs, hospitals, hotels, that do have speed limit signs on private driveways?
A. Yes.
Q. And you've seen many of those?
A. I am familiar with many locations where you have privately-owned cartways that have posted speed limits to benefit residents or patrons.
Q. You were asked about the farmers market, and it was suggested, $I$ believe, by one of the speakers that Friday would have been a better day than the Thursday.

I think you testified to this, and solely because the farmers market is open, starts opening up at 6:00 a.m. on a Friday.

To clarify, however, can you reiterate, Friday is not a recommended day to do a study; is that correct?
A. Yes. Part of the reason is for the potential that somebody might elect to take a three-day weekend, and that could actually serve to reduce traffic activity, and you get lower
traffic counts on a Monday or a Friday.
MR. BROSEMAN: That's all I have at this time.

MR. MARLIER: I have some brief follow up.

MR. RICE: Brief, emphasis on brief. - - -

## RECROSS EXAMINATION

BY MR. MARIIER:
Q. I'd like to correct the record. I think $I$ was making Mr. Tavani, $I$ think $I$ was adding an "R" to your name a couple of times. I apologize.
A. I don't recall it that way.
Q. I believe I did. Mr. Broseman asked you about the parking spaces and specifically the ordinance requirements here in Radnor; correct?
A. Yes.
Q. But just to be clear, when you're looking at the trip generation, you're not looking at the ordinance. You're looking at the ITE manual; correct?
A. Yes.
Q. And when you're looking at traffic flow, you're looking at the ITE manual; correct?
A. I'm not sure the distinction between what you just said. Can you -- what do you mean by "traffic flow" versus "trip generation"?
Q. Traffic flow, to me, I'm thinking of the way traffic moves throughout the development and beyond, so maybe not the counts, but the rates.
A. I'm really not sure how to answer that, but $I$ agree with the first part.

There is a very antiquated trip generation table in the ordinance that dates from the $1970 s$, and $I$ did not use that because in my experience in the township, the township traffic engineers, even the one preceding $M r$. Drummond, have always suggested using the latest edition of the ITE Trip Generation Manual rather than that table, if that's what you're referencing.
Q. Speaking of the manual and the different editions, the St. Honore development, $I$ am probably the only person in this room who does not know. When was that done?
A. September 2022 .
Q. Fair enough. Okay. I'm glad we circled back to the sidewalks internally, because you have stated a number of times that obviously sidewalks external to the property would make things safer going down Strafford, for example, down to the train station; correct?
A. In that context, there is no sidewalk that exists on either side of the road, yes.
Q. But just to be clear, it would be safer if there were sidewalks internally both on the outside and the inside of Drive $A$ and Drive B; correct?
A. You know, one of the things I really dislike about the word "safe" is that I'm aware of no ordinance or even rule of thumb in ITE that gives any really definable metric about when you cross the line from safe to unsafe.

I mean, we could offer that $I$ would be safer if $I$ was wearing a helmet right now, because there's a possibility that when I stand up, I'm going to fall down and hit my head.

It's a very small chance, but it's nevertheless possible, and $I$ guess it would be safer if $I$ had a helmet on.

I believe that, given the context of Drive A, Drive B, the internal volume that 38 homes would generate, that one sidewalk on one side of the street is sufficient to convey pedestrian activity.

You correctly note that $I$ did say earlier that in other locations in the township, adding sidewalks would be a benefit.

But what $I$ was really referencing were locations where sidewalks did not exist on either side of the street. That's the best way I can answer.
Q. Fair enough. You mentioned -- just a couple more questions here.

You were asked by Mr. Broseman, if it's necessary to reduce the number of units, would that change your analysis, and $I$ believe your answer was no, is that correct, when you're looking at reducing the number of townhomes?
A. I believe the question was aimed at would reducing the number of units change the conclusions of my study, and the answer was no.
Q. I believe you also testified, I just want to get this out, that the variable you used
here was the number of units; correct?
A. Yes.
Q. In fact, when we were talking about, $I$ was asking you two hours ago now about the number of people in each townhome, that was of no moment; correct? It was number of units?
A. Yes.
Q. And the size of the houses didn't matter. It's the number of units; correct?
A. Yep.
Q. But you testified as to single-family homes a little while ago and the number of folks, you opined, you said you speculated that the number of people living in those houses might be different and that can have an impact.

Do you remember testifying that way?
A. Yes. I was trying to reconcile why ITE offered that 31 detached single-family homes generates more traffic than 38 attached single-family homes, and I offered under the guise of speculation that it could be the number of units.

It could also, for that matter, be just the driving habits of the residents of
detached houses versus attached.
I really have no way of knowing, but
I do know that the non-conditional use plan generates more traffic than what the applicant would like to build.
Q. So in coming to your conclusions when doing your traffic studies, you're choosing the variables that you would like to focus on?
A. $\quad \mathrm{Oh}$, yes. Sure.
Q. One last question.
A. And then, just to be clear, not all land use categories even give you a choice. In some cases, there is only one variable, but in other cases, there might be more variables.
Q. You mentioned that it is possible that a single elderly person could purchase one of these 3,000-square-foot homes.

But the distinction between probably and possible and probable, is it probable that a single elderly person would buy one of these 3,000-square-foot homes?
A. I don't know how you would define "probable." I mean, we're in a pretty nice area. You could have, unfortunately, a widow or a
widower who is well to do and still has ties in the area, may no longer need a 5,000-square-foot single-family home and downsizes, likes the appeal of the community.

I certainly think it's possible. Maybe it's not likely that all of the units will be populated that way, but I think there's a possibility, for sure.
Q. I think we all agree that we would love to downsize from a 5,000 to a 3,000-square-foot house. I have no further questions.

MR. BROSEMAN: I had a follow up.
MR. RICE: Well, time out. We had direct, we have cross-examination, we have redirect, and we have recross. That's it.

MR. BROSEMAN: Mr. Marlier got a
follow up. I don't get that?
MR. RICE: That was recross, I think.
But go ahead, Mr. Broseman.
MR. BROSEMAN: Thank you. I'll be brief. The hour is late.

REDIRECT EXAMINATION

BY MR. BROSEMAN :
Q. I just wanted to ask, with the ITE study, there's been talk about the attached homes, townhomes versus singles.

It's my understanding that ITE, they do studies of actual townhomes and actual single-family detached dwellings to come to their data; correct?
A. To be clear, they don't.
Q. They gather them?
A. My understanding, they gather them, yes.
Q. So isn't it fair to say that the reason the numbers are different is because they studied actual ones, and that's the way it came out?
A. Yes, precisely.

MR. BROSEMAN: That's all I have.
MR. RICE: Okay. Let's go off the
record for a minute.

$$
\begin{gathered}
--- \\
\text { (Discussion off the record.) }
\end{gathered}
$$

MR. RICE: So we are scheduled for March 20th. I just want to make sure that everybody is aware of that.

Mr. Lambert is going to be here
finishing up on cross-examination.
And I guess, Mr. Broseman, you will have some other witnesses. I see you have a couple witnesses that are sitting patiently by.

But then we'll pick up with one or both of those witnesses; right?

MR. BROSEMAN: Yes. Mr. Lambert will be back on the 20th. Everybody is available on the $20 t h$, so we'll all be here again. We'll be optimistic we'll get through everyone.

MR. RICE: We have Mr. Panzak and Mr. Hetzel, who did the fiscal impact analysis, so they'll both be here on the 20th. Okay.

So the hearing is concluded for tonight. It will be continued to March 20th at 6:30, same place.

And Mr. Lambert will be here to finish up on cross-examination, and then we'll
have two additional witnesses that night.
Hopefully, we'll complete those two witnesses that night, but don't hold your breath over that.

MR. BROSEMAN: To state the obvious, that's 6:30 p.m.?

MR. RICE: 6:30 p.m. on March 20th.
Any questions from anybody, parties or otherwise?

-     -         - 

(No response.)

-     -         - 

MR. RICE: Okay. Thank you very much.
THE PRESIDENT: Can $I$ get a motion to adjourn?

MR. LARKIN: So moved.
THE PRESIDENT: Is there a second? MS. MULRONEY: Second.

-     -         - 

(Proceedings concluded at 9:25 p.m.)

## CERTIFICATE OF REPORTER

I, Norma Gerrity, a Professional Court Reporter, do hereby certify that the foregoing record is a true and accurate transcript of my stenographic notes in the above-captioned matter.

Norma Gerrity
Professional Court Reporter

afternoon [3]-13:17,
16:14, 132:22
age [1] - 58:2
Agnew [1]-142:12
AGNEW [17] - 22:10, 106:10, 106:18, 106:22, 107:8, 107:11, 108:19, 109:7, 109:14, 110:7, 110:15, 110:20, 111:5, 111:11, 111:14, 111:17, 111:24
ago [5]-3:7, 28:9,
$53: 8,156: 4,156: 12$
agree [5] - 49:5,
74:12, 80:10, 153:11, 158:9
ahead [7] - 15:10,
17:7, 37:16, 40:9, 139:17, 139:18, 158:20
aid [2] - 35:11, 116:6
aimed [1] - 155:20
aisle [1] - 144:11
align [1] - 42:15
all-way [1] - 105:14
Allegiance [2] - 3:13, 3:15
allow [1] - 15:24
allowed [2] - 86:21,
111:16
alluded [2] - 104:20, 107:24
alluding [1] - 91:10
Almost [1] - 47:7
almost [4] - 16:8,
29:23, 47:6, 96:23
alone [1]-96:8
Amazon [3] - 45:5, 81:17, 108:8
Amber [1] - 59:12
amount [2] - 14:24, 46:23
analyses [1]-77:15 analysis [10]-8:11, $8: 15,10: 7,18: 15$, 19:3, 19:17, 60:17, 129:8, 155:17, 160:18
Analysis [3]-10:4, 17:21, 64:22
analyzed [1] - 15:15
Anecdotally [1] 123:20
Ann [1]-72:24
answer [26] - 14:11, 22:11, 32:13, 32:15, 35:24, 36:1, 44:6, 45:1, 47:19, 68:18, 77:24, 89:9, 89:13, 93:5, 103:5, 105:11, 114:8, 128:8, 132:6,
aprons [4] - 33:9,
138:20, 139:1, 139:6
area [24]-8:4, 18:11,
19:9, 26:3, 59:1,
64:16, 64:17, 67:21, 72:12, 73:23, 80:24, 103:6, 104:15, 114:19, 114:21, 117:6, 122:19, 125:12, 135:9, 138:4, 138:8, 138:12, 157:23, 158:2
areas [3] - 48:24, 49:2, 89:10
argument [2]-54:13, 108:16
arrangements [1] 26:9
arrive [2] - 14:18, 21:8 arriving [2] - 29:24, 85:2
arterial [1] - 25:12
arterials [1] - 146:1 associated [7] -
55:23, 56:1, 64:24,
66:2, 79:1, 81:12,
82:8
Associates [3]-5:11, 5:13, 20:11
assume [1] - 79:7
Assuming [1] - 144:1
assuming [1] - 144:5
assumption [2]-83:5, 83:6
attached [15] - 10:14,
13:14, 15:1, 25:19,
58:19, 83:2, 101:10,
125:1, 127:8, 133:1,
146:18, 150:18,
156:19, 157:1, 159:4
attempt [1] - 68:17
attempted [3]-17:14,
65:24, 140:16
attempting [2] - 38:2,
58:6
attention [1] - 23:4
August [6] - 20:1,
71:8, 133:21,
133:23, 133:24,
135:10
author [1] - 77:10
automotive [7] - 17:1,
56:6, 56:22, 57:4,
91:24, 111:1, 111:3
Auxiliary [1] - 17:20
available [7] - 7:5,
19:7, 80:19, 81:3, 86:12, 142:18, 160:14
Avenue [60]-9:11, 9:12, 10:1, 10:22, 10:24, 21:1, 24:4,

25:8, 25:16, 30:11, 30:12, 52:11, 57:11, 57:14, 57:19, 57:20,
57:24, 60:12, 62:7,
62:21, 62:22, 74:20,
74:21, 75:6, 84:12,
84:19, 84:22, 85:7,
85:17, 88:3, 88:4,
88:8, 88:9, 88:15,
88:16, 88:18, 88:20,
89:16, 89:22, 92:6,
92:11, $92: 13,92: 20$,
93:1, 93:7, 97:2,
99:10, 100:9,
100:13, 106:12,
106:13, 110:17,
111:7, 124:22,
124:23, 125:23,
126:19, 145:8, 146:9
average [9]-12:6,
12:12, 16:15, 19:8,
46:15, 88:18, 93:21,
96:20, 141:24
avoid [1] - 67:10
aware [9] - 49:6, 49:8,
49:10, 55:5, 60:8,
68:21, 143:21,
154:14, 160:3
axis [2] - 141:7, 141:8

| $\mathbf{B}$ |
| :---: |

Bachelor [1] - 5:4
background [2] - 5:3, 6:8
backing [1] - 81:5
bad [1] - 126:8
baked [2] - 81:18, 93:9
bars [1] - 105:18
based [11] - 14:2,
51:21, 52:1, 53:14,
55:3, 83:7, 95:13,
96:21, 129:17,
132:11, 148:11
basis [1] - 129:21
batting [1] - 86:8
Bear [1] - 90:6
beat [1] - 139:23
become [1] - 92:1
becoming [1] - 67:3
bedrooms [1] - 81:14
begin [2] - 19:12,
60:16
behind [2] - 120:6,
139:7
below [1] - 144:14
bender [1] - 18:19
benefit [6] - 24:11,
101:3, 116:16,
138:2, 151:9, 155:8
best [6] - 58:15, 63:5, 64:5, 89:8, 149:23,

155:11
better [12]-31:7,
31:13, 43:22, 81:8,
89:13, 101:20,
112:15, 124:12,
124:15, 126:1,
127:12, 151:14
between [11] - 11:4,
15:18, 41:8, 42:17,
110:24, 111:3,
117:8, 131:12,
144:7, 153:3, 157:18
Beyond [1] - 74:24
beyond [3] - 111:20,
122:19, 153:8
bias [1] - 104:5
bicycle [3] - 56:3,
98:24, 99:24
big [2] - 125:3, 138:8
biggest [1] - 13:3
bike [1] - 57:2
bit [8] - 14:5, 34:9,
35:9, 46:11, 98:15,
115:21, 118:17, 136:2
board [5] - 6:14, 10:6,
11:24, 66:5, 102:11
Board [1] - 3:9
boards [1] - 6:13
bodies [2]-6:12, 6:14
body [1] - 142:20
book [4] - 60:3, 110:8,
122:21, 141:23
boom [1] - 141:9
borders [1] - 87:4
born [1] - 125:14
bottom [6]-15:16,
31:14, 43:20, 43:23,
45:2, 122:8
break [1] - 79:16
breath [1] - 161:4
Brian [1]-59:24
brief [3]-152:4,
152:6, 158:22
Brief [1] - 152:6
bring [1] - 132:11
bringing [2] - 67:24, 74:7
broad [1] - 83:4
broken [2]-13:18,
122:11
Broseman [14]-4:3,
4:8, 6:20, 7:3, 35:23, 36:10, 36:14, 39:22, 136:20, 143:3,
152:16, 155:15,
158:20, 160:6
BROSEMAN [45] - 4:5,
4:9, 5:1, 5:23, 6:6, 6:16, 7:20, 7:21,
8:14, 9:2, 9:6, 22:12,
23:2, 23:3, 27:5,
32:6, 35:20, 36:2,

| $\qquad$ <br> 36:11, 36:16, 36:20, 36:23, 37:2, 37:6, 37:12, 39:6, 39:15, 40:1, 67:23, 75:12, 75:18, 112:19, 136:16, 136:23, 137:15, 143:5, 143:9, 152:2, 158:13, 158:17, 158:21, 159:2, 159:19, 160:12, 161:5 <br> C <br> calculated [1] - 95:13 <br> calculation [1] - 94:17 <br> calculations [3] - <br> 45:18, 54:17, 132:16 <br> cameras [1] - 98:22 <br> cannot [3] - $31: 7$, <br> 35:24, 44:5 <br> captioned [1] - 162:9 <br> capture [1] - 47:11 <br> Car [1] - 120:23 <br> car [9]-13:24, 33:1, <br> 33:18, 34:23, 34:24, <br> 41:16, 92:21, 121:6, <br> 143:22 <br> care [1] - 54:14 <br> carries [1] - 25:13 <br> cars [21]-14:7, 32:1, |  | 138:17 <br> characterize [3] 44:22, 45:20, 45:21 <br> chase [1] - 14:4 <br> Chawla [1]-59:15 <br> cheap [1]-83:16 <br> check [2] - 47:17, <br> 106:6 <br> Cheryl [1]-101:23 <br> choice [2] - 84:23, <br> 157:12 <br> choose [2]-66:17, <br> 80:20 <br> choosing [1] - 157:7 <br> chose [3] - 89:9, <br> 111:9, 117:18 <br> chosen [3] - 68:20, <br> 81:11, 134:23 <br> Cindy [1] - 71:5 <br> circled [1] - 154:2 <br> circles [1] - 118:21 <br> circulation [1] - 44:17 <br> city ${ }_{[2]}$ - 110:23, 111:1 <br> Civil [1] - 5:5 <br> civil [3]-44:12, <br> 112:16, 134:15 <br> clarified [1] -98:16 <br> clarify [5] - 45:15, <br> 80:16, 136:19, <br> 137:20, 151:18 <br> classification [2] - <br> 9:18, 145:16 <br> classifications [2] - <br> 145:19, 146:10 <br> classified [2] - 9:14, <br> 145:10 <br> clear [8] - 28:8, 46:12, <br> 51:13, 123:24, <br> 152:20, 154:9, <br> 157:11, 159:10 <br> clearly [1] - 139:4 <br> Clemente [1] - 59:19 <br> close [4] - 22:3, 22:18, <br> 26:18, 105:2 <br> closed [2]-69:21, <br> 89:24 <br> closeness [1] - 87:11 <br> Closer [1] - 129:12 <br> closer [6] - 42:16, 62:19, 63:3, 95:16, <br> 105:2, 129:10 <br> closes [1] - 69:9 <br> closest [5] - 60:18, <br> 61:7, 62:11, 103:17, 104:1 <br> clubs [1] - 151:2 <br> COATES [10] - 127:20, <br> 127:22, 128:24, <br> 129:12, 130:5, <br> 131:2, 131:10, <br> 131:19, 132:7, 133:8 <br> code [5] - 36:9, 58:14, | ```122:10, 144:2, 145:23 codes [2] - 80:18, 99:23 collect [4] - 12:23, 98:23, 98:24, 141:4 collected [1] - 71:12 collection [2] - 10:18, 13:7 collector [2] - 9:16, 9:19 collectors [2] - 146:1, 146:2 college [1] - 55:4 color [1] - 48:13 comfort [1] - 104:8 comfortable [1] - 25:1 coming [11] - 3:23, 5:9, 14:10, 45:5, 46:23, 47:21, 84:21, 85:3, 97:19, 100:13, 157:6 comment [2] - 20:4, 99:11 comments [1] - 72:2 commercial [3] - 31:12, 56:10, 56:15 Commissioner [2] - 142:11, 142:12 Commissioners [1] - 3:10 commissioners [1] - 6:14 common [9]-23:13, 28:14, 54:10, 54:18, 118:13, 123:12, 123:13, 138:18, 146:22 commonly[1] - 81:11 Commonwealth [1] - 5:15 communities [2] - 112:22, 146:19 community [10] - 10:14, 26:21, 73:7, 74:5, 81:22, 117:23, 118:2, 127:12, 146:19, 158:4 commuter [2] - 11:2, 69:13 commuting[1] - 108:3 company [2]-47:2, 103:1 compare [2] - 123:8, 124:2 compared [1] - 81:20 compares [1] - 101:7 comparing [1] - 57:19 Comparison [3] - 15:13, 109:24, 131:23 comparison [1] - 15:17``` | ```complete [1] - 161:2 completed [6] - 65:8, 71:10, 76:23, 77:1, 77:22, 78:4 completely [1] - 38:15 compliant [1]-122:10 complicated [1] - 105:1 comply [1] - 144:6 computer [1] - 128:14 concede [1] - 58:7 conceivably [1] - 74:10 concern [5] - 44:21, 73:21, 100:17, 138:14, 139:11 concerns [1] - 138:10 concluded [2] - 160:20, 161:20 conclusion [3] - 20:18, 104:14, 128:4 conclusions [5] - 20:16, 99:12, 115:24, 155:22, 157:6 condition [1]-53:21 conditional [9]-3:10, 8:1, 8:7, 26:5, 95:2, 101:6, 112:21, 127:3, 157:3 conditions [12]-11:7, 15:3, 15:18, 15:19, 16:12, 16:18, 17:24, 21:17, 52:18, 53:3, 65:2, 67:8 condos [1] - 125:2 conduct [1] - 66:24 conducted [6]-11:1, 20:7, 67:20, 85:11, 93:6, 104:10 conducting [1]-60:16 confirm [1] - 76:24 confirmed [1] - 148:10 conflating [1] - 53:24 conflict [1] - 39:14 conflicted [1] - 139:3 confuse [3] - 39:10, 40:3, 40:7 confused [2]-40:2, 40:8 confusing [2] - 27:18, 62:17 congestion [1]-26:11 conglomeration [1] - 93:14 connect [2]-28:24, 100:15 connection [2]-7:23, 91:22 conservative [3] - 17:5, 17:16, 116:22 consider [7]-19:2,``` |
| :---: | :---: | :---: | :---: | :---: |


| ```64:6, 64:17, 81:23, 87:5, 89:15, 89:19 consideration [7] - 13:9, 17:17, 83:10, 88:23, 89:2, 93:4, 107:12 considerations [1] - 63:13 considered [1] - 92:18 considering [1] - 86:17 considers [1] - 77:13 consist [1] - 77:8 consistent [1] - 26:6 consists [2]-10:9, 25:8 constituency [1] - 140:22 constitutes [1] - 139:10 constructed [5] - 47:17, 58:3, 64:12, 65:1, 74:6 construction [1] - 135:18 consult [1]-134:21 consultants [1] - 148:13 contains [1] - 96:10 contend [1] - 54:3 contention [1] - 69:23 contested [1]-47:14 context [5] - 14:11, 129:9, 137:23, 154:7, 155:1 contiguous [1] - 100:21 continue [3] - 15:7, 74:18, 86:12 continued [1] - 160:21 continues [1] - 88:8 continuing [2] - 15:2, 100:8 continuous [1] - 5:7 contribute [5] - 77:23, 78:7, 100:24, 109:18 contributed [1] - 17:13 contributing [2] - 90:1, 106:16 contributions [1] - 124:18 control [1]-127:1 controlled [1] - 105:14 controls [2]-100:24, 101:16 convenience [1] - 8:19 convention [1] - 15:22 converse [1] - 108:24 conversely [1] - 92:4 convey [1] - 155:4``` |  |  | ```66:12, 67:17, 68:3, 68:7, 68:10, 69:5, 69:10, 70:4, 70:11 current [4] - 77:18, 147:21, 147:22, 148:3 curve [5] - 44:9, 94:1, 122:3, 122:4 curves [1] - 141:15 curvilinear [2] - 40:20, 120:2None``` <br> D <br> daily [1] - 126:5 <br> dart [1] - 142:22 <br> data [26] - 10:18, <br> 12:23, 13:7, 14:2, <br> 19:7, 19:16, 55:2, <br> 71:12, 77:13, 77:16, <br> 81:4, 81:18, 83:8, <br> 93:24, 98:23, 99:1, <br> 99:14, 99:22, <br> 107:17, 107:21, <br> 140:8, 141:4, <br> 142:16, 142:17, <br> 149:22, 159:9 <br> database [1] - 58:19 <br> databases [1] - 77:15 <br> date [3]-71:6, 71:9, <br> 133:20 <br> dated [4]-19:24, <br> 66:1, 66:7, 110:13 <br> dates [1] - 153:13 <br> David [2]-76:5, 98:8 <br> days [6] - 68:23, 69:1, <br> 69:8, 90:15, 90:21, <br> 108:2 <br> dealt [1]-52:4 <br> decades [1] - 99:19 <br> decide [3]-12:24, <br> 77:17, 87:14 <br> decided [3] - 75:12, <br> 104:16, 104:17 <br> decides [1] - 102:23 <br> deciding [1] - 127:11 <br> decision [3]-104:19, <br> 135:12, 135:15 <br> deep [6] - 39:3, 39:4, 40:13, 41:12, 120:1, 120:2 <br> deeper [1] - 35:9 <br> defer [1] - 32:8 <br> definable [1] - 154:16 <br> define [1] - 157:22 | ```defined \([1]\) - 30:18 defines [1] - 18:11 definitive [1] - 86:21 delay [6] - 12:3, 12:7, 15:22, 16:13, 21:11, 128:15 delays [2]-16:8, 110:2 delivered [4]-94:24, 95:5, 95:8, 95:24 demonstrate [2] - 11:18, 61:6 demonstratively \([1]\) - 17:23 denominator [1] - 61:13 density [2] - 7:24, 103:14 depicted [2] - 116:1, 116:3 depressions \({ }_{[1]}\) - 139:10 depth [1] - 41:8 derived [1] -93:14 describe [3]-5:2, 9:8, 48:11 describes [1] - 115:7 describing [2] - 53:13, 74:23 description [1]-10:15 designated [1] - 30:7 designations [1] - 119:6 desperately \({ }_{[1]}\) - 127:16 detached [12] - 50:5, 58:18, 101:8, 132:18, 132:24, 140:18, 141:10, 150:12, 150:16, 156:18, 157:1, 159:8 detail [1] - 95:4 details [2] - 44:3, 130:2 determine [2] - 140:11, 142:18 determined [1]-103:3 developer \({ }_{[1]}\) - 123:6 development [54] - 7:24, 8:16, 14:1, 15:9, 23:16, 24:18, 25:23, 26:15, 26:23, 27:2, 27:19, 29:11, 29:16, 30:6, 31:22, 42:23, 43:21, 44:18, 44:21, 45:6, 45:19, 46:24, 47:12, 47:17, 47:22, 48:5, 48:19, 48:23, 55:22, 57:20, 64:13, 65:10, 65:16, 79:2, 79:10, 79:20, 81:13, 84:13, 96:22, 100:11, 109:11,``` |
| :---: | :---: | :---: | :---: | :---: |



Essentially [2] -
62:10, 106:14
established ${ }_{[1]}$ - 15:3 establishing [1] - 79:7
estate [1] - 97:18
estimate [5]-12:3,
13:13, 15:22, 110:8, 150:6
estimates [2] - 12:15,
53:14
estimating [2] - 46:19,
51:17
evaluating [1] 115:23
evaluation [1] - 88:24
evening $[3]$ - 45:14,
76:14, 115:21
evenings [1] - 95:19
EVIDENCE ${ }_{[1]}$ - 4:13
evolution [1] - 114:23
evolutionary [1] -
116:11
Ex [1] - 45:8
exact [1] - 58:17
Exactly [1] - 119:24
examination [6] -
3:24, 39:18, 89:8, 158:15, 160:5, 160:24
EXAMINATION ${ }_{[9]}$ 4:22, 27:12, 59:10, 102:19, 133:15, 139:20, 143:7, 152:8, 158:24
examined [1] - 4:16
examining [4] - 40:6, 136:17, 136:22, 136:24
example [8]-18:5, 38:10, 80:22, 109:6, 129:2, 129:20, 130:14, 154:5
examples [1] - 149:14
exceed [1] - 21:11
except [1]-67:17
exception [2]-26:18, 117:4
exclusive [1]-29:23
exercise [1]-103:18
Exhibit [11]-5:24,
6:3, 8:21, 8:23, 23:6, 104:14, 114:17, 116:3, 117:2, 147:21
exist $[3]-24: 1,24: 10$, 155:10
existed [1] - 58:8
existing [27]-9:9,
11:9, 15:3, 15:18,
16:12, 21:15, 21:16,
24:12, 52:18, 52:22,
53:3, 53:16, 53:18,
54:1, 54:5, 54:11,
54:16, 54:22, 78:22,

81:21, 89:15, 91:14, 96:10, 96:18, 101:3, 126:18
exists [2] - 12:23,
154:8
exit [2] - $33: 13,84: 18$
exiting [3] - 42:4,
130:14, 138:24
expand $[1]$ - 117:11
expect $[3]$ - 12:6,
12:12, 14:24
expected [2]-26:15,
27:2
expensive ${ }_{[1]}$ - 133:2
experience [16] -
33:17, 47:9, 47:13,
49:14, 49:16, 51:3,
51:22, 58:24, 81:9,
86:23, 112:18,
113:1, 123:5, 125:5,
128:18, 153:15
expert [11]-6:11,
6:17, 6:21, 7:18,
32:22, 35:24, 37:5,
40:24, 50:6, 75:4,
77:21
expertise [2]-58:11, 58:20
explain [3]-55:17,
98:14, 114:22
explaining $[1]$ - 36:17
explanation [2] -
36:21, 97:7
exposure [1] - 3:6
expressed ${ }_{[1]}-80: 23$
expressway [1] 145:22
expressways [1] 146:1
extent [7]-33:12,
54:5, 56:2, 101:2, 116:13, 116:22, 127:17
exterior [1] - 35:3
external [2]-23:19, 154:4
extra [3] - 131:14,
143:22, 144:7

| $F$ |
| :---: |
| facilities $[5]-16: 24$, |

101:14, 101:19, 127:17, 151:2
facility [5] - 24:10,
56:3, 56:24, 101:2, 126:20
fact [22]-14:22, 16:6, 17:6, 17:12, 20:1, 20:17, 23:18, 24:2, 41:10, 53:2, 64:20, 64:23, 78:21, 80:9,

91:11, 92:18, 94:14, 94:15, 105:1,
141:21, 144:13, 156:3
factor [1] - 98:2
facts [1] - 58:10
faded [1] - 105:13
fair [3]-44:8, 146:14,
159:14
Fair [3]-44:24, 154:1, 155:13
Fairfield [1] - 60:1
fall [1] - 154:21
False [1]-53:11
false [1]-53:12
familiar [12] - 8:3, 8:6,
11:24, 23:10, 25:7,
43:11, 50:2, 50:20,
77:9, 143:16, 146:18, 151:7
familiarity ${ }_{[1]}$ - 44:19 family [18] - 50:4,
83:2, 101:8, 109:17,
127:5, 127:6,
127:13, 132:24,
133:5, 140:18,
141:9, 150:12,
150:16, 156:11,
156:18, 156:20,
158:3, 159:8
far $[4]-21: 5,61: 23$,
103:19, 104:13
farmers [15]-68:13,
68:14, 68:21, 69:12, 69:19, 70:1, 70:8, 89:20, 89:23, 90:12, 90:13, 90:14, 92:7,
151:11, 151:16
Farmers [1] - 125:24
fashion [1] - 149:6
fast $[1]$ - 127:23
Fed [1] - 45:8
feet $[30]-25: 4,25: 9$, 25:10, 30:24, 32:21, 32:22, 32:23, 33:2, 33:9, 39:3, 39:4, 40:12, 40:21, 41:5, 41:7, 41:9, 41:10,
50:19, 50:23, 50:24,
$51: 9,60: 6,80: 24$,
118:8, 118:10, 120:1, 120:2,
143:17, 143:18
fender [1]-18:19
fender-bender [1] 18:19
few [10]-10:10, 13:6, 17:18, 27:8, 27:15, 28:9, 77:5, 98:10,
102:22, 122:2
field [1] - 7:18
figure [3]-23:20, 56:18, 116:14
figures [3]-10:10,
58:10, 94:16
fill [1] - 38:15
filled [1] - 144:20
filter [1] - 90:6
finally $[1]$ - 18:9
fine ${ }_{[1]}$ - 57:8
Fine [1] - 127:21
finish [1] - 160:23
finished [2]-36:16, 36:20
finishing [1] - 160:5
fire [6] - 42:21, 43:1,
43:5, 43:10, 43:14,
43:15
firm [1] - 122:16
first [9]-4:16, 17:9,
20:4, 35:16, 37:20,
57:6, 123:23, 131:3,
153:11
Firstly [1] - 16:7
fiscal ${ }_{[1]}$ - 160:18
fit [5] - 38:16, 58:15,
58:18, 121:3, 141:15
fits [1] - 103:5
fitted [2]-94:1
five [5] - 10:9, 18:24,
61:24, 99:8, 114:18
fleet [1] - 43:15
floor [1] - 80:24
flow [7]-12:2, 16:17,
88:23, 94:21, 153:2,
153:5, 153:6
flows [3]-11:12,
11:13, $90: 9$
focus [6]-11:12,
68:2, 84:11, 87:1,
101:11, 157:8
focuses [1] - 18:15
folks [1] - 156:12
follow [7]-47:16,
66:23, 85:6, 149:16,
152:4, 158:13,
158:18
follow-up [1] - 47:16
following [2] - 14:16,
144:2
follows [2]-4:17,
22:16
foot [6] - 41:11, 41:12, 58:4, $91: 11$
footprint ${ }_{[1]}$ - 144:12
forecasted [1] - 15:21
foregoing [1]-162:7
forget $[1]-55: 12$
forgetting [1] - 127:13
formerly [1] - 104:9
formula [1] - 45:13
Forrest [5]-76:15,
84:9, 139:22, 148:1
forth [1] - 50:10
fosters [2]-56:8, 57:3
foundation [1] - 74:16
four [29] - 17:19, 23:6,
25:9, 28:16, 30:20,
31:14, 32:20, 39:1,
41:5, 48:6, 48:14,
50:11, 55:18, 91:21,
97:13, 100:6,
114:14, 114:16,
114:18, 115:2,
116:3, 117:1,
120:14, 121:4,
122:7, 128:22,
129:1, 144:13,
147:22
Fourteen [2] - 110:12, 110:15
fraction [1] - 61:14
FRANK [1] - 4:15
Frank [6] - 4:19, 5:2,
6:7, 19:14, 23:4,
143:10
frequently $[1]$ - 95:17
Friday [10]-67:5,
69:6, 69:7, 90:16,
106:19, 126:2,
151:13, 151:17,
151:19, 152:1
Fridays [1] - 68:13
front [6] - 42:6, 74:4,
120:8, 121:11,
134:2, 139:7
frontage [4]-9:16,
24:3, 75:1, 111:21
frontages [1] -9:13
full $[5]-20: 4,72: 4$,
119:9, 135:5, 144:20
fully [1] - 65:1
function [3]-21:5,
29:10, 147:12
functional [3]-25:18,
33:19, 33:20
functioning [2]-25:1, 145:4
Furthermore [1] -
61:11
future $[5]-13: 9,15: 6$,
15:19, 53:22, $65: 2$

| $\mathbf{G}$ |
| :--- |
|  |
| Gaeto $[1]-70: 14$ |
| gap $[1]-21: 9$ |
| garage $[20]-32: 2$, |
| $32: 4,32: 18,33: 4$, |
| $33: 10,33: 18,34: 12$, |
| $35: 2,35: 10,38: 1$, |
| $38: 7,38: 9,38: 13$, |
| $38: 15,41: 16,42: 13$, |
| $97: 16,120: 9$, |
| $120: 14,143: 15$ |
| gat |

garages [6] - $31: 22$,
34:8, 36:4, 36:8,

| $38: 19,96: 16$ |
| :--- |
| garbage $[2]-25: 14$, |
| $81: 17$ |
| gather $[2]-159: 11$, |
| 159:12 |
| gathered $[1]-99: 18$ |
| general $[12]-18: 22$, |

19:9, 20:7, 45:12,
45:13, 45:16, 45:23,
66:22, 103:15,
104:11, 137:12,
137:23
generalities [2] - 34:4, 34:5
generally [8] - 8:3, 11:3, 18:14, 19:19, 23:9, 50:2, 50:4, 150:15
generate [13]-13:14, 26:14, 26:20, 53:21, 56:22, 93:22, 101:9,
101:11, 127:7,
128:12, 140:5,
141:19, 155:3
generated [3]-25:22,
89:5, 89:20
generates [4]-127:4, 127:14, 156:19, 157:4
generating [3]-68:24,
69:22, 97:20
generation [13] -
53:14, 54:3, 99:24,
100:1, 108:17,
109:6, 116:23,
128:3, 150:6,
150:17, 152:21,
153:5, 153:13
Generation [6] -
12:16, 13:4, 47:10,
$47: 14,51 \cdot 16,153: 18$
47:14, 51:16, 153:18
generations [1] -
11:16
generous [1] - 25:5
gentleman [1]-75:13
Gentlemen [1] - 39:17
German [1] - 97:13
Gerrity [2] - 162:6,
162:13
Gilmore [1] - 20:11
Gilmore's [1] - 133:17
given [5] - 49:17, 89:8,
94:11, 149:14, 155:1
glad [1] - 154:1
glossary [1] - 141:22
goal [1] - 129:13
God's [1] - 141:20
Google [1] - 90:13 governing [2] - 6:13, 142:20
grabbed [1] - 107:2 grade [4] - 12:2, 15:21, 31:5, 31:6
grading [2] - $31: 4$, $31: 9$
graduated [1] - 5:6 Grant [8] - 10:23,
52:12, 62:11, 72:13,
85:22, 86:2, 86:6
grass [1]-42:1
Great [1]-75:9
great ${ }_{[1]}$ - 121:6
greater [3]-62:15,
92:24, 150:18
greatest [1]-107:18
green [1] - 148:4
greenhouse [3] -
17:13, 52:21, 97:17
greenhouses [1] -
96:16
Gregory [2] - 84:7, 84:8
group [1] - 78:6
guess [6] - 58:20,
70:5, 125:13, 132:8, 154:23, 160:6
guessing [1] - 46:18
guide [1] - 55:6
guideline ${ }_{[1]}$ - 60:3
guidelines [1]-66:15
guise [1] - 156:21
$\mathbf{H}$
habits [1] - 156:24
half [5]-60:7, 103:10,
143:17, 144:3,
144:19
halfway [1] - 69:24
Hamilton-1 [2]-27:23
hand $[7]-8: 20,9: 4$,
43:21, 43:23, 45:3,
49:17, 113:15
handbook [1]-132:12
handed [1] - 5:24
handle [1]-25:22
hands [1]-135:5
handy [1] - 15:12
Hansen [2] - 70:18,
71:5
HANSEN [5] - 71:5,
71:14, 71:21, 72:10,
72:16
hard [1] - 130:7
hardly [1] - 62:3
haste [1] - 106:24
hat $[1]$ - $66: 20$
hazard [1] - 26:11
head [2]-130:16,
154:21
heading [4] - 75:6,
85:16, 86:11, 88:14
hear [1]-12:8
heard [6] - 10:12,
54:12, 87:10,

104:23, 121:8, 123:2
hearing $[8]-3: 10$,
6:13, 82:9, 82:13,
82:14, 101:12,
113:2, 160:20
heart [1] - 115:22
heavily $[3]-30: 11$,
30:12, 30:15
Hedgerow [8]-10:23,
52:12, 62:11, 72:13,
85:8, 85:13, 85:18,
85:19
Hello [1] - 125:11
helmet [2]-154:19, 154:24
help [5] - 12:24, 65:22,
78:9, 127:24, 149:15
hereby $[1]$ - 162:7
herself $[1]$ - 116:17
Hetzel [1]-160:18
Hi [3] - 106:10,
118:16, 125:10
hierarchy [2] - 145:18, 146:12
high ${ }_{[1]}$ - 139:2
higher [3]-68:15,
94:4, 150:15
highways [2]-26:3, 26:10
hinged [1] - 129:24
hired [2]-123:2, 123:6
history ${ }_{[1]}$ - 18:10
hit $[2]$ - 143:12, 154:21
hits [1] - 125:23
hitting [2]-119:11, 138:8
HOA [1] - 73:5
hold [3]-102:8, 121:18, 161:3
holidays [1] - 67:12
Holloway [1] - 70:22
home [11]-14:10,
14:18, 49:23, 51:19,
69:24, 107:14,
110:24, 111:4,
140:14, 147:23,
158:3
homes [28]-13:14,
25:19, 51:14, 51:15,
83:2, 101:8, 101:10,
105:22, 109:17,
112:10, 127:6,
127:8, 127:13,
140:3, 140:4,
140:18, 141:10,
141:23, 149:2,
149:23, 150:18,
155:3, 156:12,
156:18, 156:20,
157:17, 157:21,
159:5
Honore [19]-63:19,

63:20, 63:24, 64:19, 65:7, 65:19, 66:3, 66:6, 67:19, 67:24,
109:8, 109:11,
109:15, 109:16,
110:12, 150:1,
150:11, 150:20,
153:21
Honore's [1] - 110:5
Hopefully ${ }_{[1]}$ - 161:2
hoping [1] - 17:15
horse [1] - 139:23
hospitals [1] - 151:2
host $[1]$ - 133:5
hotbed [1] - 70:9
hotels [1] - 151:3
Houder [1]-65:12
hour [15]-13:16,
13:20, 14:14, 14:15,
14:16, 14:17, 61:18,
61:24, 83:3, 99:9,
124:24, 141:9,
158:22
hour's [1] - 82:17
hourly [2]-11:12,
11:13
hours [9] - 11:10,
11:20, 14:19, 21:3,
55:23, 70:6, 82:21,
90:2, 156:4
house [7]-51:6, 51:11, 97:13, 108:9, 121:11, 141:19, 158:11
houses [12] - 51:4,
100:5, 110:11,
110:12, 118:5,
132:18, 132:24,
133:1, 156:8,
156:14, 157:1
housing [4]-10:14,
50:5, 58:19, 125:2
how-to [1] - 55:5
hundred $[9]-61: 4$,
61:18, 103:22,
118:9, 129:6,
129:11, 129:12,
131:11, 131:13
hundreds [2]-83:7, 138:22
hybrid [1]-108:2
Hymel [1]-71:2
hyphen [1]-15:23
hyphens [2]-15:23,

## 128:13

| I |
| :--- |

idea [4]-79:3, 79:9,
79:21, 114:5
identical [1] - 117:7
identification [2]-6:4,

8:24
identified [2]-11:9, 93:12
illustrate [1] - 149:15
illustrative [1] - 116:7
image [3] - 115:11,
115:13, 116:24
imagine [5] - 25:15,
57:9, 57:17, 113:13, 113:16
immediate [1] - 18:11
immediately [2] -
52:2, 61:4
Impact [3]-10:3, 20:6, 64:22
impact [39]-8:10,
8:15, 8:16, 11:17, 11:19, 15:9, 16:2,
16:5, 16:11, 44:20,
46:22, 61:7, 61:16,
61:21, 62:3, 62:14,
63:21, 63:22, 63:23,
64:3, 66:24, 69:12,
69:24, 87:20, 87:22,
96:2, 99:7, 99:11,
104:1, 109:20,
125:4, 128:6,
130:23, 131:14,
132:4, 140:4,
156:15, 160:18
impacted [2] - 60:20, 103:18
impacts [2] - 26:24,
61:10
impartial [1] - 83:9
implement [1] - 55:6
implications [1] -
145:7
implied [1] - 78:14
importance [1] - 78:14
important [2] - 14:12,
142:21
improve [1] - 142:15
inaccurate [1] -
138:17
inbound [1]-13:19
Inc [1] - 20:11
incidentally ${ }_{[1]}$ -
101:9
include [4] - 77:14,
87:14, 98:12, 141:14
included [4]-8:15,
17:20, 107:22,
109:22
including [1]-6:13
inconsistencies [1] 136:20
incorporate [1] -
66:10
Incorporated [1] -
5:11
increase [7]-48:18,
98:3, 108:5, 111:5,

| 11:6, 128:15, | 154:2, 154:10 |  | $\begin{aligned} & \text { 125:23, 130:17, } \\ & \text { 130:22 } \end{aligned}$ | ```legal [2] - 31:17, 53:17 lend [1] - 83:17 length [6]-21:11, 24:3, 33:14, 119:19, 119:21``` |
| :---: | :---: | :---: | :---: | :---: |
| $2: 19$ | international [1] - 12:22 <br> interrupted [4] - $\begin{aligned} & 36: 23,37: 2,37: 7, \\ & 37: 13 \end{aligned}$ | $\begin{aligned} & 150: 5,150: 14, \\ & 152: 23,153: 2, \\ & \text { 153:18, 154:15, } \\ & \text { 156:18, 159:3, } 159: 6 \end{aligned}$ |  |  |
| increased [2]-71:17, |  |  | Land [1]-145:14 <br> land [10] - 47:16, <br> 58:14, 65:10, 80:18, |  |
| 09:10 |  |  |  |  |
| incredible [1] - 103:13 |  |  |  |  |
| Indeed [2] - 19:18, |  | ITE's [1] - 13:13 | 99:23, 112:6 | gths [1] - 40: |
| 99:16 | intersect [1] - 21:1 | [1] - 83:2 | :20, 127:2 | s [27] - 11 |
| $\begin{aligned} & \text { indeed }[3]-28: 18 \text {, } \\ & 64: 9,101: 16 \\ & \text { indicate }[1]-93: 3 \\ & \text { indicated }[2]-24: 4, \\ & 91: 5 \end{aligned}$ | $\begin{aligned} & \text { intersection [24]- } \\ & 9: 10,12: 5,16: 3 \\ & 30: 22,60: 11,61: 7, \end{aligned}$ | 38:12, 38:13 | $\begin{gathered} \text { Lane [9] - 17:20, } 60: 1, \\ 72: 13,73: 4,76: 15, \\ 84: 9,139: 23,148: 1 \end{gathered}$ | $\begin{aligned} & 21: 17,26: 20,33: 10, \\ & 41: 20,42: 11,47: 24, \end{aligned}$ |
|  |  | iteration [1] - 147:17 |  |  |
|  | $\begin{aligned} & 30: 22,60: 11,61: 7, \\ & 61: 11,61: 17,61: 22, \end{aligned}$ 62:7, 62:12, 62:19, | $\begin{aligned} & \text { itself }[4]-12: 14, \\ & 29: 12,130: 18,140: 9 \end{aligned}$ |  | $\begin{aligned} & 49: 12,50: 7,50: 9 \\ & 50: 10,50: 16,51: 1 \end{aligned}$ |
| indicates [1] - 32:20 | $\begin{aligned} & \text { 62:7, 62:12, 62:19, } \\ & \text { 63:2, 63:7, 63:8, } \end{aligned}$ |  | lane [1] - 17:24 <br> lanes [5] - 18:4, 25:9, | 6:10 |
|  | 85:22, 87:5, 87:12, |  | 5 | 63:9, |
| indicator [1] - 149:24 | 88:19, 103:10, |  |  | $\begin{aligned} & : 21,127: 4, \\ & 7: 14,133: 3 \end{aligned}$ |
| $\begin{gathered} \text { individual [10]-28:13, } \\ 29: 4,40: 12,108: 12, \end{gathered}$ | $\begin{aligned} & \text { 105:9, 105:14, } \\ & \text { 128:19, 132:2 } \end{aligned}$ | January [2] - 46:7, | $\begin{aligned} & \text { 19:13, 80:22, } \\ & \text { 138:12, 148:24 } \end{aligned}$ | 141:19 |
| 108:14, 118:12, | intersections [22] - | Jennifer [2]-73:2, | largely [1] - 129:2 | $\begin{aligned} & \text { Iesson }[1]-131: 17 \\ & \text { letter }[5]-12: 2,15: 21, \\ & 20: 14,133: 18, \end{aligned}$ |
| 119:17, 138:7, 138:19, 138:24 | 52:7, 60:5, 60:18, | 73:3 | $\begin{aligned} & \text { larger [4] - } 61: 13, \\ & 133: 1,140: 19,144: 3 \end{aligned}$ |  |
| individually ${ }_{[1]}$ | 61:12, 62:18, 63:3, 87:16, 87:19, 87:22, | jobs [1] - 122:22 | $\begin{aligned} & \text { largest }[2]-43: 15, \\ & 45: 4 \end{aligned}$ | 33:20 |
|  |  |  |  | letters [1] - 110:3 |
| ```individuals [2] - 46:13,53:7 industrial [1] - 80:23 infinite [1] - 12:5``` | $\begin{aligned} & \text { 96:3, 102:23, 103:2, } \\ & \text { 103:7, 103:17, } \\ & \text { 103:22, 104:2, } \\ & \text { 105:2, 110:24, 124:9 } \end{aligned}$ | Joe [2] - 76:15, 139:22 <br> John [1] - 59:19 | LARKIN [23] - 112:2, 112:8, 112:14, | $\begin{array}{\|c} \text { level }[10]-11: 22,12: 7, \\ 15: 7,15: 21,20: 22, \end{array}$ |
|  |  | join [1] - 3:12 | $\begin{aligned} & \text { 112:8, 112:14, } \\ & \text { 113:2, 113:8, } \end{aligned}$ | 20:23, 44:13, 99:7, |
|  |  | judgment [1] - 103:19 | 113:11, 113:18 113:21, 113:23 | 110:3, 129:9 |
| ingress [3]-29:15, 30:3, 106:13 | $\begin{aligned} & \text { intersects [3]-85:7, } \\ & 88: 4,88: 8 \end{aligned}$ | $\begin{gathered} \text { justify }[3]-64: 2, \\ 65: 15,77: 21 \end{gathered}$ | $\begin{aligned} & \text { 113:21, 113:23, } \\ & \text { 114:4, 114:7, } \end{aligned}$ | $\begin{aligned} & \text { Level }[6]-12: 8,15: 12, \\ & \text { 16:9, 21:2, 109:23, } \\ & 131: 22 \end{aligned}$ |
| injured [2]-18:16, | investigate [1] - 19:10 | K | 4:14, 115:2 |  |
| inner [2] - 48:15, 49:4 | investigation [6] -10:16, 10:18, 15:8, |  | 115:17, 116:24 | LEVY [1] - 59:14 |
| input [4] |  |  | $\begin{aligned} & 117: 11,117: 15, \\ & 117: 20,118: 3, \end{aligned}$ | library [1] - 83:19 <br> licensed $[1]$ - 5:14 |
| 93:14, 134:10, | $\begin{aligned} & 10: 16,10: 18,15: 8 \\ & 17: 16,18: 10,19: 12 \end{aligned}$ | $\text { keep }[2]-89: 11,130: 7$ |  |  |
| 142:1 | investigations [1] - | keep [2] - 89:11, 130:7 <br> Keeping $[1]$ - 114:14 | 118:14, 161:16 | light [2] - 67:8, 78:5 |
| $\begin{aligned} & \text { inside [2] - 48:20, } \\ & 154: 11 \end{aligned}$ | investigative ${ }_{[1]}$ - | $\begin{aligned} & \text { keeps }[1]-67: 24 \\ & \text { kind }[6]-14: 4,25: 14, \end{aligned}$ | Larkin [1] - 3:2 <br> last [14]-11:1, 19:6, | likelihood [2] - 64:9, 64:15 |
| inspect [1] - 15:24 | involved [2] - 112:5, | $\begin{aligned} & 45: 12,123: 8 \\ & 123: 21,146: 19 \end{aligned}$ | 71:12, 71:13, 91:4, | $\begin{aligned} & \text { likely }[11]-29: 23, \\ & 35: 18,37: 19,41: 20, \end{aligned}$ |
| stance [1] - 47:20 |  |  |  |  |
| instead [8]-50:15, | $136: 13$ <br> irrelevant [1] - 129:20 | knowing [4] - 46:21, | $\begin{aligned} & \text { 96:9, 99:18, 100:7, } \\ & \text { 122:23, 135:10, } \end{aligned}$ | $\begin{aligned} & 50: 24,85: 18,87: 21, \\ & 130: 18,133: 3, \end{aligned}$ |
| 08 | irrelevant [1] - 129:20 irrespective ${ }_{[1]}$ - | $64: 15,104: 8,157: 2$ |  |  |
| :22, 132:17 |  | knowledge [1] - 58:11 | $\begin{aligned} & \text { 122:23, 135:10, } \\ & \text { 157:10 } \end{aligned}$ | 133:5, 158:6 |
| 132:22, 148:20, | 111:22 | known [1] - 65 | $\begin{aligned} & \text { late }[3]-82: 18, \\ & 115: 21,158: 22 \end{aligned}$ | Likewise $[1]$ - 103:12 <br> limit [8]-113:5, 113:9, |
| 149:17 | $\begin{aligned} & \text { issue }[8]-41: 15, \\ & 41: 18,47: 11,54: 8, \end{aligned}$ | $\text { knows [1] - } 90: 18$ | ```latest [2] - 14:2, 153:17 layered [1] - 65:1 lead [2] - 30:15, 118:4``` | limit [8] - 113:5, 113:9, |
| Instead [1] - 68:8 |  |  |  | 113:11, 113:17 |
| $\begin{gathered} \text { Institute }[3]-5: 6, \\ 5: 18,12: 21 \end{gathered}$ | 54:10, 54:19, 55:7, 127:14 |  |  | $\begin{aligned} & \text { 113:18, 118:7, } \\ & \text { 150:24, 151:3 } \end{aligned}$ |
| institution [1] - 141:2 | ITE [59]-12:16, 12:20, |  |  | $\begin{aligned} & \text { limited }[3]-58: 21, \\ & 68: 22,149: 6 \end{aligned}$ |
| $\begin{aligned} & \text { instrument }[1] \text { - } \\ & 116: 16 \end{aligned}$ | 12:21, 13:8, 14:3, <br> 14:14, 14:24, 19:16, | Lafarge [1]-72:20 | leading [2] - 42:5, | $\begin{aligned} & \text { limits [4]-117:21, } \\ & 118: 1,150: 24,151: 9 \end{aligned}$ |
| ended [1] - 116:9 | 45:22, 47:10, 47:13, 47:18, 47:23, 51:16, | laid [1] - 74:16 | $\begin{aligned} & 87: 7 \\ & \text { learned }[2]-55: 3 \text {, } \\ & 55: 4 \end{aligned}$ |  |
| interesting [1] - 99:10 | 47:18, 47:23, 51:16, $51 \cdot 21.54: 4,54: 7$ | $23: 7,24: 21,31: 8 \text {, }$ |  | $\begin{aligned} & \text { line }[5]-17: 7,35: 10, \\ & 86: 21, ~ 87: 5,154: 17 \end{aligned}$ |
| interior [1] - 35:3 | 51:21, 54:4, 54:7, |  | least $[7]-14: 14,18: 1$, |  |
| internal [28]-23:13 | 54:16, 54:20, 57:5, 60:3, $60: 8,66: 19$, | $31: 10,32: 7,35: 21,$ | $\begin{aligned} & \text { 18:17, 62:23, 90:2, } \\ & 123: 12,140: 1 \end{aligned}$ | Line [2]-122:17, 122:19 |
| 23:17, 24:7, 24:16 | $76: 17,76: 22,77: 2,$ | $36: 2,36: 13,39: 7$ | 123:12, 140:1 <br> leave [6] - 14:18, | 122:19 |
| 25:2, 25:3, 25:10, | $\begin{aligned} & 77: 11,78: 15,79: 4, \\ & 80: 18,81: 22,82: 1, \end{aligned}$ | 39:12, 134:12 | leave [6] - 14:18, | $\begin{aligned} & \text { linear [2] - 63:11, } \\ & 93: 24 \end{aligned}$ |
| $25: 17,28: 14,38: 2$, $49: 12,84: 16,94: 20$, |  | $160 \cdot 12 \quad 160 \cdot 23$ | $\begin{aligned} & \text { 14:19, 14:20, 43:6, } \\ & 84: 24,96: 8 \end{aligned}$ |  |
| 49:12, 84:16, 94:20, 94:22, 95:1, 95:22, | 82:19, 82:24, 83:9, | Lambert's [1] - 147:20 | leaving [6]-29:24, | $\begin{aligned} & \text { lines }[3]-16: 5,139: 3, \\ & 149: 10 \end{aligned}$ |
| 96:2, 117:23, 118:3, | 93:12, 93:16, 94:16, | Lancaster [15] - 9:24, 60:12, 60:14, 63:9, | $97: 1,126: 12$ | link [1]-56:4 |
| 137:8, 138:2, 138:4, | 96:21, 99:13, 99:21, |  |  | list [2] - 75:20, 146:8 <br> lists [1] - 146:3 |
| 138:18, 139:6, | $\begin{aligned} & \text { 127:6, 127:10, } \\ & \text { 140:2, 140:7, 140:9, } \end{aligned}$ | 74:21, 75:7, 88:9, | left [6] - 18:3, 29:20, |  |
| 146:17, 155:2 |  | 88:16, 88:20, 100:9, | 42:3, 102:17, | literally $[1]-87: 4$ |
| internally [3] - 42:18, |  |  | 122:3 | live $[7]-51: 13,70: 11$, |


| $\begin{aligned} & 73: 4,74: 5,100: 14, \\ & 148: 9,148: 18 \end{aligned}$ | M | marshal [2]-43:1, 43:5 | methodologies [1] 20:16 | 122:23, 142:8 |
| :---: | :---: | :---: | :---: | :---: |
| lived [1] - 85:19 |  | Mary [1] - 72:2 | methodology ${ }_{[1}$ | g [1] - 77:18 |
| living [6] - 14:7, 46:14, | Madison [1] - 73:4 | mass [1] - 91: |  | motorist [5] - 16:16 |
| 51:1, 51:4, 78:20, | Mahoney [2] - 72:24, $79: 11$ | math [1]-120:13 | metric [3] - 49:6 | 29:22, 42:15, 139:5 |
| local [6]-9:14, 30:16, |  | matter [8]-22:5 |  | motorists [1]-21:12 |
| $\begin{gathered} \text { local }[6]-9: 14,30: 16, \\ 145: 11,145: 22, \end{gathered}$ | mail [8] - 94:23, 95:5, | 22:20, 48:1, 69:19, | metrics [1] - 49:8 | mounted [2]-113:14, |
| 146:6, 146:10 | 95:8, 95:11, 95:15, | 2:9 |  | move [2] - 110:1, |
| locally [1] - 122:16 | 5:18, 95:23 | maximum [2]-64:23, | might [26] - 7:6, 2 | 113 |
| location [11] - 12:11, 29:11, $35: 7,61: 16$, | $\begin{aligned} & \text { Main [2] - 122:17, } \\ & \text { 122:19 } \end{aligned}$ | 101:2 | 26:20, 31:7, 33:10 | moved [3]-75:13, <br> 75:16, 161:16 |
| 85:23, 88:5, 88:11, | major [4]-9:16, 9:19, | 15 | 5:22, 67: | movement [1] - 12: |
| 95:6, 95:9, 95:10, | 6:10, 146:1 | 6:14, 62:10, 69:19 | :13, 80:23, 81 | moves [1] - 153:7 |
| 131:1 | majority [2]-11:10 | 2:1, 83:18, 89:2, | 00:5, 102:14, | MULRONEY ${ }_{[20]}$ |
| $\begin{aligned} & \text { Iocations [7] - 61:2, } \\ & \text { 101:15, 108:10, } \\ & \text { 149:2, 151:7, 155:7, } \\ & \text { 155:10 } \end{aligned}$ | :13 | $8: 15,105: 5,110: 2$ | 03:6, 112:1 | 113:15, 118:16, |
|  | management [1] | 2:6, 112:16 | 7:24, 131:5 | 9:7, 119:15, |
|  | 48:5 | 4:23, 126:15 | 34:17, 140:2 | 20:12 |
|  | manual [27] - 45:13 | 9:7, 141:18 | 2:2, 151:22 | 0:20, 120:22, |
| look [21] - 7:6, 13:12,16:6, 18:23, 40:19, | $\begin{aligned} & 51: 21,54: 7,54: 16, \\ & 54: 21,55: 1,57: 6, \end{aligned}$ | 2:2, 153:4 | 56:14, 157:14 | 5, |
|  |  | 154:18, 157:2 | mile [5] - 60:7, 62:2 | :16, 121:18 |
| $\begin{aligned} & 16: 6,18: 23,40: 19, \\ & 42: 21,45: 4,73: 6, \\ & 81: 3,94: 21,103: 9 \end{aligned}$ | $\begin{aligned} & 54: 21,55: 1,57: 6, \\ & 66: 19,76: 17,76: 21, \end{aligned}$76:22, 77:2, 77:18, | meaning [1] - 53:4 | 03:8, 103:10 | 1:21, 122:13 |
|  |  | meaningful [11] - | miles [1] - 118:9 | 3:1, 123:19, |
| 103:16, 103:22,105:4, 114:19, | $\begin{aligned} & 76: 22,77: 2,77: 18, \\ & 77: 23,78: 8,78: 15, \end{aligned}$ | 15:9, 16:1, $96:$ | mind [1] - 46:1 | 124:4, 125:6, 161:18 |
|  | 79:4, 79:23, 80:11, | 9:7, 104:1, 109:20, | mine [1] - 120:24 | multiple [2]-130:6, |
| 105:4, 114:19, 115:11, 117:4, | 106:22, 108:17, | 28:6, 131:9, | minimal [4]-11:19 | 33:5 |
| $\begin{aligned} & 118: 19,123: 7, \\ & 136: 11,142: 5 \end{aligned}$ | $\begin{aligned} & \text { 109:6, 140:9, 150:5, } \\ & 152: 23,153: 2, \end{aligned}$ | 31:10, 131:18 | 63:21, 63:22, | $\mathrm{al}_{[1]}-6$ |
|  |  | $2: 20$ | minimum [1] - 65:19 | Myers' [1] - 142:11 |
| $\begin{aligned} & \text { looked [5] - 19:6, } \\ & 45: 7,48: 2,134: 19, \\ & 134: 20 \end{aligned}$ | 153:20 | meaningfully ${ }_{[2]}$ | minor [1] - 146 | mystery [1] - 141:20 |
|  | $\begin{aligned} & \text { Manual }[6]-12: 16, \\ & 13: 5,47: 10,47: 14, \\ & 51: 16,153: 18 \end{aligned}$ | 49:20, 127:7 meaningless [1] | $\begin{aligned} & \text { minute }[4]-3: 3,3: 4, \\ & 102: 9,159: 21 \end{aligned}$ |  |
| Looking [2] - 73:6, 96:13 |  | 03:11 | 102.9, |  |
|  | $\begin{gathered} 51: 16,153: 18 \\ \text { manual's }[1]-58: 10 \end{gathered}$ $\text { map }[1]-73: 6$ |  |  |  |
|  | map [1] - 73:6 <br> Maps [1] - 90:14 | 10, 16:15, 18:16, | minutiae [1] -95: |  |
|  |  | 1:6, 37:10 | missed [4]-20:20 | 112:12, 145:24, |
|  | $\begin{gathered} \text { March }[5]-3: 11,3: 23 \\ 160: 2,160: 21,161: 7 \end{gathered}$ | meant [1] - 116:6 | 43:19, 71:6, 80:7 | 152:13 |
| 44:4, 84:15, 96:23, <br> 97:10, 121:22, <br> 122:1, 122:6, 129:8, | Margaret [1] - 75:21 <br> mark [1] - 75:19 | $\begin{gathered} \text { measurable }[7]-16: 1, \\ 61: 8,87: 23,128: 4, \end{gathered}$ | missing [1] - 82:15 | $\begin{gathered} \text { names }[3]-112: 3, \\ 112: 9,118: 22 \end{gathered}$ |
|  |  | 61:8, 87:23, 128:4, $128: 7,128: 11,129: 5$ | misunderstood [1] 80:7 | $\text { nationally [1] }-67: 11$ |
|  |  | measure [1] - 39:5 | mitigated ${ }_{[1]}-11: 20$ | nature [2] - 80:13, |
|  | $\begin{aligned} & 8: 23,27: 19,28: 2, \\ & 28: 5,133: 22 \end{aligned}$ | measured [1] - 144:17 | $\operatorname{model}_{[1]}-80: 20$ | 116:12 |
|  |  | meet ${ }_{[1]}-36: 8$ | models [1] - 82:1 | navigating [1] - 139:6 |
| $\begin{array}{r} \text { looks }[3]-96: 14, \\ 114: 17,118: 20 \end{array}$ | $\begin{aligned} & \text { market }[14]-68: 13, \\ & 68: 14,68: 22,69: 12, \end{aligned}$ | MEGAN [1] - 76:10 <br> Megan [1] - 76:12 | modes [1] - 9:21 <br> modification [1]-7 | $\begin{gathered} \text { near }[3]-21: 20, \\ 55: 16,56: 17 \end{gathered}$ |
| $\begin{aligned} & \text { Ioop [3] - 48:16, 49:4, } \\ & 84: 15 \end{aligned}$ | $\begin{aligned} & 69: 20,70: 1,70: 8 \\ & 89: 21,89: 24,90: 12, \end{aligned}$ | membership [1] - 78:5 memo [6]-20:3, | moment [4]-15:11, <br> 90:7, 96:8, 156:6 | Nearby ${ }_{[1]}$ - 125:13 nearby [11] - 16:20, |
| $\begin{aligned} & \text { Iove [2] - 103:21, } \\ & 158: 10 \end{aligned}$ | $\begin{aligned} & 90: 13,92: 8,151: 12 \\ & 151: 16 \end{aligned}$ | $\begin{aligned} & 20: 10,20: 13,46: 1, \\ & 46: 2,46: 4 \end{aligned}$ | $\begin{aligned} & \text { Monday [2] - 67:5, } \\ & 152: 1 \end{aligned}$ | $\begin{aligned} & 55: 20,56: 20,61: 13, \\ & 64: 7,64: 14,67: 13, \end{aligned}$ |
| $\begin{aligned} & \text { Iow [3] - 49:17, 99:2, } \\ & 137: 18 \end{aligned}$ | Market [1] - 125:24 <br> market's [1] - 90:14 <br> markings [1] - 105:13 <br> marks [1] - 67:16 | $\begin{gathered} \text { memorandum } \\ \text { 19:24, } 20: 18 \end{gathered}$ | Montgomery [9] - $25: 7,25: 16,57: 11$ | $\begin{aligned} & \text { 68:22, 91:17, } 91: 18 \\ & \text { nearer }[1]-87: 18 \end{aligned}$ |
| $\begin{aligned} & \text { Lower [2]-25:8, } \\ & \text { 123:13 } \end{aligned}$ |  | $\begin{aligned} & \text { mention }[3]-23: 22, \\ & 46: 2,54: 15 \end{aligned}$ | $\begin{aligned} & \text { 57:14, 57:19, 57:20, } \\ & 57: 24,124: 22, \end{aligned}$ | $\begin{aligned} & \text { necessarily }[2]-18: 7 \text {, } \\ & 51: 5 \end{aligned}$ |
| $\begin{gathered} \text { Iower [5] - 94:4, } \\ \text { 121:24, 122:3, } \\ \text { 144:14, 151:24 } \end{gathered}$ | MARLIER [15]-7:11, | $\begin{gathered} \text { mentioned [15]-24:6, } \\ 26: 19,30: 5,48: 4, \end{gathered}$ | 124:23 | $\begin{gathered} \text { necessary }[3]-147: 9, \\ 147: 14,155: 16 \end{gathered}$ |
|  |  | 2:7, 52:19, 125:22, | $\begin{aligned} \text { rning }[7]-13: 17 \\ : 14,70: 2,70: 17 \end{aligned}$ | need [15] - 18:3 |
| lowest [2] - 146:13 | $\begin{aligned} & 32: 17,37: 17,39: 13, \\ & 40: 10.55: 13,55: 14 . \end{aligned}$ | 126:7, 126:10, | $92: 14,92: 18,132: 18$ | 8:23, 33:11, 61:9 |
| lowest-traffic [1] - 146:13 | $59: 3,75: 16,80: 5 \text {, }$152:4, 152:10 | $\begin{aligned} & \text { 132:10, 145:10, } \\ & \text { 150:1, 150:14, } \end{aligned}$ | mornings [1] - 95:18 most [15]-50:24 | $\begin{aligned} & 65: 22,73: 14,99: 5, \\ & 106: 6,129: 4,129: 5, \end{aligned}$ |
| $\begin{aligned} & \text { Iowest-traveled }[1] \text { - } \\ & 146: 13 \end{aligned}$ |  | 155:13, 157:15 | $58: 21,60: 15,60: 1$ | 29:6, 131:11, |
|  | 7:9, 27:7, 36:23, | Merion [2]-25:8, | $81: 11,82: 4,84$ | 42:24, 143:21, |
| lucky [1] - 55:18 | 37:16, 39:9, 40:2, | 23:13 | 103:17, 108:16, | 158:2 |
| Lutz [1] - 101:23 | $\begin{aligned} & 40: 9,55: 10,76: 21, \\ & 80: 3,158: 17 \end{aligned}$ | met [2]-17:24, 67:16 | 122:17, 122:18, | needed [2] - 98:5, 127:17 |
|  | 80:3, 158:17 | methodolgy [1] - 18:6 |  |  |






|  | ```150:12, 150:15, 156:11, 156:18, 156:20, 157:16, 157:20, 158:3, 159:8 single-family [14] - 50:4, 83:2, 101:8, 109:17, 127:13, 132:24, 140:18, 141:9, 150:12, 156:11, 156:18, 156:20, 158:3, 159:8 single-home [1] - 49:23 single-unit [1] - 141:23 singles [2]-132:10, 159:5 site [42]-9:13, 9:23, 11:16, 12:14, 12:15, 15:5, 15:16, 16:11, 16:18, 17:10, 20:24, 21:18, 23:5, 23:6, 29:24, 52:14, 52:18, 54:6, 60:4, 60:18, 61:3, 61:5, 61:14, 61:16, 61:20, 62:24, 65:11, 79:7, 80:23, 84:22, 86:11, 87:8, 87:21, 91:8, 91:15, 96:10, 96:17, 96:18, 114:24 sites [1] - 78:22 sitting [2] - 3:5, 160:8 situation [5] - 19:5, 34:16, 35:11, 44:12, 49:21 situations [2] - 78:10, 114:11 Six [1] - 120:20 six [5] - 19:7, 33:2, 51:8, 97:9, 120:17 size [6] - 51:6, 103:5, 118:1, 144:9, 144:17, 156:8 sized [3] - 33:24, 34:2 sizes [1] - 36:3 skip [1] - 15:10 slide [1] - 64:20 slight [1] - 21:12 slightly [1] - 33:10 small [5] - 100:3, 119:20, 120:11, 120:20, 154:22 Small [1] - 120:12 smaller [4]-51:4, 62:4, 120:16, 144:4 smallest [1] - 119:22 Smart [1] - 120:23 snow [1] - 67:10 solely [1]-151:16 someone [6] - 18:16, 41:21, 42:2, 86:5, 113:4, 123:3``` | ```Sometimes [1] - 58:17 somewhere [1] - 133:19 Sorry [2] - 55:10, 105:10 sorry [3]-9:17, 22:10, 73:12 sort [3]-48:12, 93:19, 123:10 sound [1] - 80:3 sounds [5] - 50:20, 71:19, 115:5, 125:2, 136:4 south [3] - 91:23, 92:3, 130:17 southeastern [3] - 114:19, 114:20, 117:6 southern [2] - 92:13, 117:6 southwest [1] - 125:15 space [6] - \(36: 8\), 38:14, 143:17, 143:22, 144:12, 148:4 spaced [1]-103:7 spaces [12] - \(30: 7\), 38:11, 114:18, 114:20, 117:5, 143:14, 144:7, 144:8, 144:18, 144:21, 152:17 SPEAKER [2] - 71:3, 90:22 speakers [1] - 151:13 speaking [3] - 37:3, 37:6, 71:20 Speaking [1] - 153:20 specialized [1] - 136:6 specific [8]-34:10, 34:22, 39:7, 44:8, 47:11, 47:20, 95:8, 146:9 specifically [8] - 28:11, 32:7, 40:22, 43:9, 91:13, 135:16, 145:24, 152:17 specifics [1]-32:10 speculate [3]-51:24, 108:23, 140:16 speculated [1] - 156:13 speculating [8] - 78:11, 95:6, 108:21, 108:22, 132:14, 133:6, 140:23, 149:10 speculation [4]-51:2, 132:23, 148:17, 156:21 speed [12] - 113:5, 113:9, 113:11,``` | ```113:17, 113:18, 117:21, 117:24, 118:7, 150:24, 151:3, 151:9 speeds [1] - 139:2 spend [1] - 48:3 spots [4]-121:10, 121:12, 122:12, 126:6 square [5]-50:19, 50:23, 50:24, 51:9, 80:24 St [20] - 63:19, 63:20, 63:24, 64:19, 65:7, 65:18, 66:2, 66:6, 67:19, 67:24, 109:7, 109:11, 109:15, 109:16, 110:5, 110:11, 150:1, 150:11, 150:20, 153:21 staff [2]-17:13, 97:19 stand \([3]\) - 12:20, 64:8, 154:20 standard [8] - 18:8, 19:15, 19:20, 33:24, 51:22, 60:9, 113:13, 113:16 standard-sized [1] - 33:24 standards [5] - 57:21, 58:8, 135:18, 135:22, 149:17 standing [1] - 13:23 standpoint [1] - 117:9 stands [1] - 62:2 start [5] - 59:12, 102:16, 102:21, 119:10, 123:22 started \([5]\) - 3:2, 3:19, 7:7, 10:16, 64:1 starts [5] - 10:18, 39:19, 118:20, 145:21, 151:16 statement [5]-8:16, 73:16, 97:3, 97:5, 137:21 statements [1] - 68:9 station [19]-10:2, 16:21, 62:9, 72:4, 72:8, 72:17, 92:8, 92:10, 92:14, 93:2, 93:9, 110:16, 110:17, 110:22, 111:4, 111:8, 111:12, 126:13, 154:6 statistics [1] - 142:18 stay [1] - 67:11 stays [1] - 77:18 steam [1]-99:18 stenographic [1] - 162:9``` |  |
| :---: | :---: | :---: | :---: | :---: |




| walked [1]-3:2 <br> walking [8]-48:23, | 101:21 | $\begin{aligned} & \text { 124:7, 125:9, } \\ & \text { 125:11, 125:14, } \end{aligned}$ | Z |
| :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { 49:2, 56:7, 57:2, } \\ & 98: 20,99: 9,138: 13, \end{aligned}$ | WITNESS [181] - 4:19, $54: 9,55: 1,55: 8,$ | $\begin{aligned} & \text { 126:15, 127:21, } \\ & \text { 128:8, 129:7, } \end{aligned}$ | zoning [2] - 6:13, $26: 6$ |
| 138:22 | 60:8, $60: 13,62: 10$, $63: 4,64: 5,65: 22$, | $\begin{aligned} & \text { 129:23, 130:11, } \\ & \text { 131:3, 131:16, } \end{aligned}$ |  |
| wants [1] - 126:22 | 66:9, 66:22, 68:17, | 131:21, 132:13, |  |
| warmer [1] - 67:3 | 69:7, 69:11, 69:18, | 133:11, 133:21, |  |
| Wayne [7] - 10:24, | 70:5, 71:11, 71:19, | 133:24, 134:3, |  |
| 16:4, 52:13, 62:21, | 72:7, 72:15, 72:19, | 134:8, 134:13, |  |
| 62:22, 63:8, 125:24 | 74:14, 74:24, 75:8, | 134:20, 135:4, |  |
| wearing [1] - 154:19 | 76:19, 77:5, 77:9, | 135:14, 135:21, |  |
| weather [2]-11:7, | 77:24, 78:13, 79:13, | 136:1, 137:3, |  |
| 67:8 | 79:16, 79:21, 79:24, | 137:20, 138:16, |  |
| website [1] - 90:15 | 80:16, 82:10, 82:12, | 140:7, 140:16, 142:2 |  |
| Wednesday [7] - 67:2, | 82:17, 83:6, 83:16, | witness [6]-6:11, |  |
| 68:19, 69:6, 69:7, | 83:21, 83:24, 84:17, | 17:9, 37:5, 40:5, |  |
| 90:16, 106:19, 126:2 | 84:20, 85:1, 85:5, | 136:18, 137:1 |  |
| ```Wednesdays [1] - 68:12 weeds [2] - 95:21, 96:6``` | 85:9, 85:12, 85:15, | witnesses [9]-4:1, |  |
|  | 85:20, 86:1, 86:3, | 4:7, 10:12, 39:14, |  |
|  | $\begin{aligned} & \text { 86:8, 86:15, 86:18, } \\ & \text { 86:23, 87:9, 88:1, } \end{aligned}$ | $\begin{aligned} & \text { 160:7, 160:8, } \\ & \text { 160:11, 161:1, 161:3 } \end{aligned}$ |  |
| $\begin{gathered} \text { week [3] - 66:17, } \\ 68: 23,69: 1 \end{gathered}$ | 88:6, 88:12, $88: 21$, | wonderful [1] - 100:12 |  |
|  | 89:1, 89:6, 89:17, | word [3] - 115:10, |  |
| weekday [6] - 11:2, | 89:23, 90:8, 90:11, | 131:18, 154:14 |  |
|  | 90:20, 90:24, 91:13, | words [5] - 78:2, 82:7, |  |
| $\begin{aligned} & 11: 5,11: 8,66: 24, \\ & 69: 13,126: 1 \end{aligned}$ | 93:5, 93:17, 93:23, | $91: 7,95: 15,110: 10$ |  |
| $\begin{aligned} & \text { weekend }[3]-67: 4 \text {, } \\ & 69: 2,151: 23 \end{aligned}$ | 94:6, 94:9, 94:18, 95:2, 95:20, 96:12, | $\begin{aligned} & \text { works [2] - 78:18, } \\ & \text { 126:3 } \end{aligned}$ |  |
|  | 97:4, 97:8, 98:4, | world [7] - 51:18, |  |
| welcome [7]-3:9, | 98:7, 98:14, 98:21, | 51:21, 77:12, 83:8, |  |
| $72: 19,101: 22$, $112: 1,118: 10$, | 99:5, 99:16, 100:20, | 94:7, 94:8, 129:14 |  |
| 125:9, 133:11 | 100:23, 101:22, | worse [3] - 109:21, |  |
| welcomes [1]-77:11 | 103:4, 104:19, | 124:12, 124:14 |  |
| $\begin{array}{\|c} \text { west }[9]-10: 2,62: 12, \\ 62: 13,84: 23,85: 1, \end{array}$ | 105:7, 105:12, | worst [1] - 35:1 |  |
|  | $\begin{aligned} & 105: 16,106: 5, \\ & 106: 14,106: 20, \end{aligned}$ | worst-case [1] - 35:1 |  |
| 85:3, 85:7, 85:17, | 106:24, 107:10, | worth [2] - 18:9, 66:4 worthy ${ }_{[1]}$ - 77:14 |  |
| whatsoever [1] - | 107:15, 108:22, | Wynnewood [1] - |  |
| 15:20 | $\begin{aligned} & \text { 109:12, 109:16, } \\ & \text { 110:13, 110:19, } \end{aligned}$ | 122:14 |  |
| wheelbase [1] - 35:6 wheelhouse ${ }^{1]}$ - | $\text { 110:21, } 111: 9,$ | Y |  |
| 136:3 <br> Whereas [1]-27:22 | 111:13, 111:15, |  |  |
|  | 112:4, 112:13, | year [13]-11:1, 11:7, |  |
| $\begin{aligned} & \text { whereas [2] - 99:20, } \\ & 141: 24 \end{aligned}$ | 112:15, 113:7, | 19:9, 57:8, 71:7, |  |
| whole [2]-16:4, 99:17 | 113:10, 113:13, | 71:12, 71:13, 71:18, 106:22, 106:23, |  |
| $\begin{gathered} \text { wide }[6]-25: 4,25: 9, \\ 25: 11,33: 2,41: 12, \end{gathered}$ | 113:22, 114:3, | $\begin{aligned} & \text { 106:22, 106:23, } \\ & \text { 122:22, 135:10, } \end{aligned}$ |  |
|  | 114:6, 114:10, | 149:1 |  |
| 58:4 | 114:23, 115:5, | years [15] - 5:9, 5:11, |  |
| widely [1]-103:7 | 115:9, 115:16, | 5:12, 5:22, 13:6, |  |
| wider [2]-25:11,$42: 17$ | 116:5, 117:10, | 19:7, 47:3, 47:8, |  |
|  | 117:12, 117:18, | 49:14, 53:8, 70:6, |  |
| widest $[1]-33: 12$widow [1] - 157:24 | 117:22, 118:11, | 77:3, 107:9, 107:20, |  |
|  | 119:4, 119:13, |  |  |
| widower [1] - 158:1 | 119:24, 120:10, | yellow [1] - 48:13 |  |
| width [8]-25:5, 32:3, | 120:19, 120:21, | yet-to-be-built [1] - |  |
| $\begin{aligned} & 32: 18,33: 6,41: 2, \\ & 41: 6,57: 12,119: 21 \end{aligned}$ | 120:24, 121:2, |  |  |
|  | 121:6, 121:14, | yourself [3] - 52:14, |  |
| Willis [2] - 98:8, 98:9 | 121:17, 121:20, | $61: 2,93: 15$ |  |
| WILLIS [7] - 98:9, | 122:6, 122:20, |  |  |
| $\begin{aligned} & 98: 16,99: 4,99: 13, \\ & \text { 100:7, 100:21, } \end{aligned}$ | 123:11, 123:23, |  |  |
|  |  |  |  |

