

U.S. DEPARTMENT OF TRANSPORTATION

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ITS PROGRAM ADVISORY COMMITTEE

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MEETING

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THURSDAY

AUGUST 13, 2015

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The Committee met in the Potomac Ballroom of the Crystal City Marriott, 1999 Jefferson Davis Highway, Arlington, Virginia, at 8:00 a.m., Sheryl Wilkerson, Chair, presiding.

MEMBERS PRESENT:

SHERYL WILKERSON, Committee Chair, Vice
President, Federal Government Affairs,
Michelin North America

STEVE ALBERT, Director, Western Transportation
Institute, Montana State University

ROGER BERG, Vice President, Wireless
Technologies, DENSO North America Research
Laboratory

JOSEPH CALABRESE, Chief Executive Officer and
General Manager/Secretary-Treasurer, Greater
Cleveland Regional Transit Authority

JOHN CAPP, Director, Global Active Safety
Electronics, General Motors Corporation

ROBERT DENARO, Vice President, Nokia

GINGER GOODIN, Director, Policy Research Center,
Texas A&M Transportation Institute

DEBRA JOHNSON, Deputy Chief Executive Officer,

Long Beach Transit

J. PETER KISSINGER, President and Chief Executive
Officer, American Automobile Association
Foundation for Traffic Safety

SCOTT MCCORMICK, President, Connected Vehicle
Trade Association

RAJ RAJKUMAR, Professor, Department of Electrical
and Computer Engineering, Carnegie Mellon
University

SUSAN SHAHEEN, Adjunct Professor, Civil and
Environmental Engineering and Co-Director,
Transportation Sustainability Center,
University of California, Berkeley

KIRK STEUDLE, P.E., Director, Michigan Department
of Transportation

GEORGE WEBB, P.E., County Engineer, Palm Beach
County, Florida

U.S. DOT STAFF PRESENT:

WALT FEHR, Systems Engineering Program Manager,
ITS Joint Program Office, Office of the
Assistant Secretary for Research Technology

STEPHEN GLASSCOCK, Program Coordinator, ITS Joint
Program Office, Office of the Assistant
Secretary for Research Technology, Committee
Designated Federal Official

ROBERT SHEEHAN, Transportation Specialist, FHWA,
Office of Operations, Transportation
Management

JEFF SPENCER, ITS Program Manager, Federal
Transit Administration

ALSO PRESENT:

STEVE GEHRING, GM

BRIAN HOEFT, RTC, Southern Nevada

SPENCER MATHEWS, Volkswagen Group

JILL WARNOCK, HWG LLP

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1 P-R-O-C-E-E-D-I-N-G-S

2 (8:09 a.m.)

3 **WELCOME REMARKS**

4 MR. GLASSCOCK: Good morning,
5 everybody. Welcome. I'm glad that everyone
6 could make it. Ken Leonard asked me to pass along
7 his apologies for not being able to attend today.
8 The senior leadership in the office is at an offsite
9 training retreat, whatever you want to call it, so
10 no one is able to attend.

11 Bob Sheehan with VITA in Transit and
12 Walt Fehr will be here later on. In fact, Walt is
13 going to -- we did some last minute juggling of the
14 agenda and on an informal basis, Walt is going to
15 talk to you, give you a little blurb on what is going
16 on at the JPO, while you are having lunch.

17 And again, I am going to hand it over
18 to Sheryl but it is your meeting, so please speak
19 up if you want things done differently on a
20 different time basis. So, again, welcome
21 everybody. And I am in the back. Let me know if

1 you need anything.

2 **OPENING REMARKS**

3 CHAIR WILKERSON: Thank you. So,
4 thank you all for being here and for taking time
5 out of your professional duties to participate on
6 this important advisory committee. And Stephen,
7 thank you so much for taking care of all the
8 logistics.

9 MR. GLASSCOCK: Yes, so I'm sorry.
10 Everybody has been here. It is not your first
11 rodeo. So, identify yourself for our friend at the
12 end of the table there that is recording
13 everything. And the restrooms are all the way down
14 past the elevators. So, it is a little bit of a
15 hike. I'm sorry, Sheryl.

16 CHAIR WILKERSON: That's okay. Would
17 it be helpful if we went around the room and gave
18 our names for you? No, okay, great. So, if you
19 have a question or comment, just announce your name
20 first. So, thanks again, Stephen, for all the
21 logistic and administrative stuff.

22 So, for the record, the members who were
23 not able to participate today were Scott Belcher,

1 Bryan, and Tina Quigley. I think that's it. Yes,
2 at least that is what we understand.

3 I will be sure to follow up with each
4 of them and share the progress that we have made
5 from the meeting today. To the extent there are
6 subcommittee leaders, to the extent you can reach
7 out to them and get their input onto any of the
8 recommendations that we make today, that would be
9 extremely helpful because we will have a very tight
10 time line.

11 So, does anyone have any questions
12 about the agenda? Again, we tried to provide as
13 much time as possible for the subcommittee breakout
14 sessions. It was very difficult, in light of the
15 selections that everyone made. Some people had
16 just one topic they were interested in, others had
17 four. And so we tried to make sure that we didn't
18 have four groups going at once, when other people
19 would not be able to participate. So, I had
20 probably five or six different schedules and Steve
21 and I, we went through trying to figure out how to
22 make sure that people who wanted to participate on
23 the subcommittees and weigh in on those in their

1 top two to three categories could participate.
2 So, if there are other suggestions for how to do
3 that, we welcome that.

4 MEMBER MCCORMICK: Sheryl?

5 CHAIR WILKERSON: Yes.

6 MEMBER MCCORMICK: I just wanted to
7 note that I tried several times to get a Scenario
8 Planning date for everybody to work with. Roger
9 was able to participate but I couldn't really get
10 any traction from anybody else on any schedule.
11 So, it died out of apathy.

12 CHAIR WILKERSON: Yes. So, I think
13 maybe today, though, there might be an opportunity
14 to revisit that.

15 MEMBER MCCORMICK: Okay.

16 CHAIR WILKERSON: Just we came up with
17 five topics.

18 MEMBER MCCORMICK: Right.

19 CHAIR WILKERSON: We can eliminate a
20 topic, if we need to. We can add a topic, if we
21 need to. So, the floor is pretty flexible. But
22 we wanted to make sure that given all of the time
23 that we had in suggesting that option, that we

1 provide some time to at least vet --

2 MEMBER MCCORMICK: Well, Roger and I
3 both kind of felt that some of the other topics
4 probably would benefit more from the time, since
5 there wasn't a lot of interest in doing that.

6 CHAIR WILKERSON: And my understanding
7 was that some of the Scenario Planning would
8 correspond with some of the other topics.

9 MEMBER MCCORMICK: Right.

10 CHAIR WILKERSON: So, still, I think it
11 is worthy of keeping and then maybe if you are not
12 able to get a group in that scenario, I will go over
13 that schedule that we have and who would be in that,
14 based on what we discussed the last time. And then
15 if not, we can have that discussion, as we go
16 through into the recommendations for the
17 subcommittees.

18 So, the primary purpose of our meeting
19 today is to review the preliminary drafts or
20 recommendations that were submitted last month.
21 And the goal will be to submit a formal Advice Memo
22 to the Secretary next month.

23 So, during our May 13th teleconference

1 call, we received updates on those five topics that
2 we identified at the February meeting for
3 consideration in the Advice Memo.

4 Each committee member identified those
5 committees that he or she wished to serve on and
6 have been afforded an opportunity to contribute,
7 both to those draft recommendations through
8 various phone calls.

9 The drafts were shared with the full
10 committee prior to review and preparation for
11 today's meeting. And today we will pretty much use
12 the majority of our time to take a deep dive into
13 these topics and further refine the
14 recommendations for the full committee
15 consideration. So, our goal will be to submit a
16 formal Advice Memorandum with formal
17 recommendations next month.

18 So, the agenda provides for three
19 breakout sessions. We propose the two key topics
20 for the first two and then the majority of the
21 members have already selected their first and
22 second choice. Some people only had one, others
23 had four. So, when we get to the breakout

1 sessions, I will explain how we sort of allocated
2 your time.

3 So, there are a couple of circumstances
4 where there may be members who did not select one
5 who will have an opportunity. We encourage you to
6 the extent you did not originally select a
7 committee, that you might choose one or one of the
8 other two subcommittees to listen in on or weigh
9 in, so we can get your insight.

10 So, again, this is just a suggestion.
11 If you have other recommendations for how best to
12 use our time, the short time that we have, now is
13 a good time to weigh in.

14 MEMBER DENARO: So, Sheryl, just to
15 make sure I understand, we are going to break out
16 as subcommittees?

17 CHAIR WILKERSON: Yes.

18 MEMBER DENARO: Okay.

19 CHAIR WILKERSON: So, for instance,
20 the 9:30 to 11:00, we went through a number of
21 different reiterations and we tried to do -- you
22 can see we kind of went all over the place trying
23 to figure out how to make sure that we maximize the

1 time with those subcommittees that people chose.

2 So, for instance, the first two are
3 Funding and Scenario. Like Steve had picked that
4 as a one. Scott Belcher, who is not here, didn't
5 pick one of those. He had really wanted to be on
6 the Data Committee. So, he would have had to pick
7 Funding or Scenario to sit in on.

8 Roger picked Scenario Planning as
9 number one, so Roger will be in that one.

10 Joe, for instance, you did not pick one
11 of those two. You really wanted to be in the Public
12 Transportation and the Shared Use, which you will
13 participate in later. But for the first 9:30 to
14 11:00, you can pick which one you might want to sit
15 in on or you can spend that time further refining
16 the topic that you originally worked on.

17 So, anyway, we have some charts and it
18 is pretty easy. I don't think we left out -- there
19 is only a few places where I think a couple of people
20 will have to choose.

21 So, any other comments on that?

22 So, before we proceed, we thought it
23 would be helpful, we circulated the comments or the

1 draft recommendations and we thought if you would
2 like to make suggestions, or make other
3 observations for how we can use the time in those
4 subcommittees best, if there are people who won't
5 be able to be in a particular subcommittee or who
6 come up with ideas, since we have gotten the drafts
7 that you would like to share openly with the
8 committee, now would be a good time.

9 So, we have allocated just an hour to
10 have open committee discussion. If there is no
11 discussion, we really want to get down to the
12 subcommittee meetings. We can use that time
13 wisely.

14 I had just a couple of just brief
15 suggestions. One is the documents that were
16 submitted were very different. So, to the extent
17 that we can come up with a template and agree sort
18 of how we will present this so that when the
19 subcommittee leaders or anyone who wants to be part
20 of working on the final draft, we can spend a little
21 less time worrying about format, we can really
22 focus on the substance.

23 Some of the reports had more

1 information than others. Some had charts. Some
2 had prioritized them. Others had more
3 introductory and background information. So, to
4 the extent that we can look at those as a whole and
5 say what really do we want to recommend. We don't
6 want to have maybe 50 recommendations. We really
7 want to fine tune and make sure what the top
8 priorities are. So, as we look at this, maybe we
9 should look at what we may not need to have, what
10 may be able to be combined.

11 And then lastly, there were some that
12 had sort of suggestions and talked about subject
13 matters without making a formal recommendation. I
14 think to the extent this is going to be going to
15 the Secretary and Congress, we really need to have
16 specific recommendations.

17 So, Steve, is there anything you would
18 like to mention for that? Because right, the
19 Secretary will say yes or no or concur?

20 MR. GLASSCOCK: Right. Yes, well the
21 JBL is the one that recommends the concurrence or
22 non-concurrence. So just as much as they can be
23 to the point, the better. And there is not a limit

1 on how many you can recommend. I just -- having
2 too many, it may dilute the meaning of the report
3 but it is up to you.

4 MEMBER MCCORMICK: Yes, the other
5 thing I kind of wanted to remind everybody is that
6 this is the interim report.

7 CHAIR WILKERSON: Yes.

8 MEMBER MCCORMICK: And what I would
9 like to make sure we do is save time at the end of
10 the day to at least do kind of a look into what is
11 it we think we are going to be addressing or dealing
12 with or adding value to for the main report at the
13 end of next year or the middle of next year.

14 CHAIR WILKERSON: Okay, that sounds
15 great.

16 MEMBER MCCORMICK: And it might be that
17 it is building on some of these and maybe new
18 things.

19 CHAIR WILKERSON: Okay, good point.

20 MEMBER DENARO: Let me add on to that.
21 We have got a lot of time in breakout and we do need
22 some of that. But I am concerned that we don't have
23 enough time as the plenary committee really going

1 through and looking at recommendations for all the
2 subcommittees. And this is our, it sounds like,
3 our last meeting before we actually submit
4 something next month.

5 CHAIR WILKERSON: I'm not sure I
6 understand.

7 MEMBER MCCORMICK: Well, we have all of
8 the recommendations.

9 CHAIR WILKERSON: We have the
10 recommendations, right.

11 MEMBER MCCORMICK: We need to get to
12 concurrence on it.

13 CHAIR WILKERSON: Yes.

14 MEMBER DENARO: But is there enough
15 time for us, as an overall committee, to discuss
16 five sets of recommendations?

17 CHAIR WILKERSON: Well, we still have
18 time before September. I mean we still have
19 several weeks to go after this. And I know some
20 people had a tough time getting those calls set.
21 So, I think we kind of brought it on ourselves but
22 I think to the extent we can, later on -- I could
23 come up with some timeframes that we could possibly

1 consider before we do submit something before the
2 end of September, the last week of September. But
3 if you have other thoughts or suggestions, I am
4 happy to --

5 MEMBER KISSINGER: Well, I think what
6 Bob is saying is that the subcommittees have all
7 done a certain amount of work. And there is
8 probably less need for them to meet to reiterate
9 their --

10 MEMBER DENARO: And more to
11 communicate to us.

12 MEMBER KISSINGER: -- their report to
13 the whole room.

14 MEMBER DENARO: Just to throw out a
15 suggestion, I can, speaking for Data, I think we
16 can spend a half hour just staring at each other
17 saying do we like what we have come up with already.

18 CHAIR WILKERSON: Okay.

19 MEMBER DENARO: And say that so later
20 on, instead of 45 minutes so that the subcommittee
21 can update the committee, try to make that a two
22 and a half hour block, where we can really all hear
23 and weigh in on everything else.

1 CHAIR WILKERSON: So, do you want me to
2 cut, take a half hour off of each one of those times?

3 MEMBER MCCORMICK: Well, why don't we
4 be opportunistic with it and let's plan for a half
5 an hour and then just ask each committee do you need
6 more time, depending on where they are. And then
7 we will reserve all the extra time we can combine
8 into that.

9 CHAIR WILKERSON: And part of this
10 exercise, too, if you look at how we broke that out,
11 the goal is for all of us to be weighing in on those
12 topics.

13 MEMBER MCCORMICK: Right.

14 CHAIR WILKERSON: So, 9:30 to 11:00 is
15 just not the Data Committee. It is, let's say, for
16 instance, Public Transportation Data, half of us
17 will be in one of those groups. So, you will get
18 some cross-pollination during those discussions
19 and you might get some other insight from people
20 who weren't part of those subcommittees.

21 MEMBER MCCORMICK: Why don't we ask the
22 question right now? Which of the subcommittees
23 need more time before they can present to the

1 convening group? Do you?

2 MEMBER DENARO: Speaking for Data, I
3 don't think we need more time.

4 MEMBER MCCORMICK: Okay. Funding?
5 Okay. Shared use?

6 MEMBER SHAHEEN: No, I'm ready.

7 MEMBER MCCORMICK: Okay, then maybe
8 what we do is we use those times to discuss the
9 topics and --

10 CHAIR WILKERSON: Well, the other
11 thing, too, in light of the structure and the
12 template, I think there should be some time spent
13 figuring out one, do we need to keep all of these.
14 For instance, Shared Use has a lot. So, my
15 assumption is that you are probably going to need
16 a good amount of that time.

17 There are others that might need more
18 text or context added to the draft recommendations
19 in the beginning or to provide some context, so
20 shared use doesn't look like it is 15, you know ten
21 recommendations, just to provide some continuity
22 and some thought.

23 MEMBER MCCORMICK: But the model we had

1 from the last committee, the last PAC group is a
2 very effective model.

3 CHAIR WILKERSON: So, I think you will
4 probably need a little bit -- I think you will
5 probably need -- your timer was kept back by the
6 lot of people that will be part of that.

7 So, well we can -- how about 45 minutes?

8 MEMBER MCCORMICK: I think we have a
9 template, the one we used from 2012-2013.

10 CHAIR WILKERSON: Well, I did share
11 that with everyone but I didn't get comments back.

12 MEMBER DENARO: Let me throw out just
13 another suggestion.

14 CHAIR WILKERSON: Sure.

15 MEMBER DENARO: That we could maybe
16 take one session of say 45 minutes for all
17 breakouts.

18 CHAIR WILKERSON: Yes.

19 MEMBER DENARO: Each breakout, the
20 football five can meet in parallel or if we have
21 the data, if we don't feel like we need to meet,
22 we can split up and go attend other ones that are
23 going on. Maybe, actually, I mean four when I say

1 that because maybe Scenario Planning is something
2 we would like to do all together. So, maybe we make
3 the Scenario Planning session be a plenary session
4 in here and then also keep a longer review session
5 at the end for redoing all the recommendations.

6 CHAIR WILKERSON: So, if we cut back,
7 if we make them 45 minutes, so that gives us
8 30 -- that is an hour and a half from those three.

9 MEMBER BERG: I have another
10 suggestion. Why don't we flip it and have us, as
11 a group, review the existing thing and let the
12 breakout groups work on improvement that was
13 suggested by the group.

14 CHAIR WILKERSON: That's fine.

15 MEMBER MCCORMICK: You are okay with us
16 destroying your title.

17 (Laughter.)

18 CHAIR WILKERSON: I had to propose
19 something because we needed to -- so, I am open to
20 suggestions. The goal was -- we had two different
21 proposals. The goal was to make sure that after
22 reading them there was a lot of -- they were just
23 very different, very inconsistent. I made

1 comments on all of them. So, I am going to provide
2 my comments to the various committees in writing,
3 subcommittees. But I wanted to be sure that we had
4 some consensus.

5 Since you proposed that, can you
6 recommend your time frame?

7 MEMBER MCCORMICK: Yes, Roger.

8 MEMBER BERG: I would suggest maybe
9 that each breakout group, not breakout group, but
10 every subcommittee, maybe --

11 CHAIR WILKERSON: Make their formal
12 presentation?

13 MEMBER BERG: Yes, make a
14 presentation, talk about it for a half an hour. I
15 think by that time, we will have got some major
16 things through.

17 MEMBER CAPP: That should help with the
18 consistency.

19 MEMBER BERG: Yes.

20 CHAIR WILKERSON: I'm flexible.

21 MEMBER DENARO: So would that be like
22 an hour and a half, do you think, 8:30 to 10:00?

23 MEMBER BERG: Yes.

1 CHAIR WILKERSON: So, if we go from
2 8:30 to 10:00, that is an hour and a half. And then
3 take a break.

4 MEMBER DENARO: Then a break.

5 CHAIR WILKERSON: Okay, is that okay?
6 And then we go from 10:15 to let's say do you want
7 to do 11:45?

8 MEMBER DENARO: I would say I am
9 thinking that 45 minutes would probably be plenty
10 for the committees to break out, based on what they
11 heard.

12 CHAIR WILKERSON: So you want 45
13 minutes.

14 MEMBER DENARO: That only brings us to
15 11:00 if we do it that way.

16 CHAIR WILKERSON: You said 8:30 to
17 10:00, though.

18 MEMBER DENARO: Yes, 8:30 to 10:00,
19 break for 15 minutes, and 10:15 to 11:00.

20 CHAIR WILKERSON: Okay. And then --

21 MEMBER BERG: How many groups do we
22 have, four, five?

23 CHAIR WILKERSON: There are five.

1 MEMBER DENARO: Okay.

2 CHAIR WILKERSON: We can still do 11:00
3 to 12:00 and then do lunch, although we have got
4 lunch scheduled.

5 MEMBER DENARO: Well, what would --
6 (Simultaneous speaking.)

7 CHAIR WILKERSON: I'm sorry?

8 MEMBER DENARO: What would the 11:00 to
9 12:00 be?

10 CHAIR WILKERSON: One of the subject
11 matters. The first one could be Funding, the next
12 one could be Public Transportation, the third could
13 be Data. So, 11:00 to 12:00 Data. Is that fair?

14 MEMBER DENARO: I'm not understanding
15 what you mean.

16 MEMBER BERG: I thought we were going
17 to do like let's say Bob says I am going to present
18 the Data Advice Memo draft.

19 CHAIR WILKERSON: Right.

20 MEMBER BERG: Everyone looks at it and
21 says I think that is good. And Susan starts and
22 says, talks about Shared Use and maybe we talk about
23 that for an hour.

1 MEMBER MCCORMICK: Yes, I don't think
2 they are going to take an hour and a half each.

3 CHAIR WILKERSON: Okay.

4 MEMBER MCCORMICK: Collectively, they
5 might take an hour and a half.

6 CHAIR WILKERSON: I just want to make
7 sure that if we get into a really deep discussion
8 on Shared Use or some others that we have ample time
9 later on, that we are not crunching back up and then
10 we don't have time to have discussion.

11 MEMBER MCCORMICK: I would rather say
12 give the presentation. If there is serious
13 concern about how its content or formed, that gets
14 moved to their breakout session. And then whoever
15 has got that concern can participate in that.

16 MEMBER CAPP: It might take a couple of
17 hours to talk through them as a group.

18 MEMBER MCCORMICK: Right.

19 MEMBER CAPP: I'd like to do that. And
20 then there is still time to break off.

21 CHAIR WILKERSON: Okay, I'm a little
22 confused. But can you reiterate for the record
23 what we are going to do, based on what you have just

1 said? Because I did not get it.

2 MEMBER MCCORMICK: We start, as Bob and
3 Roger said, we go have each group present what their
4 presentation is to the group, what their conclusion
5 or recommendation is. And then we have an open
6 discussion at that point, in terms of the
7 completeness, the value, the semantics of whatever
8 it is they are presenting and move on to the next
9 one.

10 If there are serious concerns, then
11 that member of the committee can go work with them
12 in their breakout session --

13 CHAIR WILKERSON: Okay.

14 MEMBER MCCORMICK: -- to input their
15 input.

16 **OPEN DISCUSSION OF SUBCOMMITTEE DRAFT**
17 **RECOMMENDATIONS**

18 CHAIR WILKERSON: So, it is pretty much
19 what we have up there. Open committee discussion
20 from 8:15 to 9:15?

21 MEMBER MCCORMICK: Yup.

22 CHAIR WILKERSON: Okay, that is what
23 this time is for.

1 (Simultaneous speaking.)

2 CHAIR WILKERSON: So, is everyone in
3 agreement? Okay, so we will go for that. So, why
4 don't we start with funding? Okay? Has everyone
5 had an opportunity, I really hope, to help Ginger
6 with the insight and comments that she needs?

7 MEMBER DENARO: Can we put the
8 recommendations up there on the screen?

9 CHAIR WILKERSON: Does everyone have a
10 copy, a hard copy?

11 (Simultaneous speaking.)

12 MR. GLASSCOCK: Everyone should have a
13 copy.

14 CHAIR WILKERSON: I think lunch is
15 fine. If we run over, then we will work with it.

16 MEMBER MCCORMICK: Well, we can always
17 have a working lunch, guys.

18 CHAIR WILKERSON: Well, just Walt Fehr
19 is coming in to give a presentation.

20 MEMBER WEBB: And I don't know who to
21 ask. The Senate passed its version of the
22 Transportation bill. I haven't looked at it. But
23 does anybody know what ITS things may or may not

1 be in that version? I know it is 1,000 odd pages.
2 For the analysis, does anybody have any sense of
3 burying a nugget in there for ITS, as far as study?

4 MEMBER MCCORMICK: Well, I wouldn't
5 say that nugget would be the appropriate term.

6 MEMBER WEBB: If it is there at all.

7 MEMBER KISSINGER: I was at a meeting
8 with like five or six associations and their
9 government reps were all in that meeting. And I
10 was told forget the Senate bill because it probably
11 will never really be taken up seriously.

12 MEMBER MCCORMICK: That's what I heard
13 from our Government Affairs Committee as well.

14 MEMBER KISSINGER: So, probably what
15 is in there is probably not worth spending a lot
16 of time on.

17 MEMBER MCCORMICK: Their expectation
18 was that there wouldn't be anything substantive
19 until the fall.

20 CHAIR WILKERSON: Can you please say
21 your names when you comment for the person who is
22 recording?

23 MEMBER BERG: I'm Roger Berg.

1 (Laughter.)

2 MEMBER BERG: I was just trying to
3 think, since we are leaving the Funding -- how it
4 was viewed over on the Senate side when they did
5 the legislation, it was just not even considered
6 at all. So, whether the whole bill survives or
7 just portions of it meets all their standards.

8

9 **FUNDING**

10 MEMBER GOODIN: Well, I think where we
11 are at right now is that we have a continuing
12 authorization, which is no more money than what we
13 have had before, which is kind of the story that
14 we have had for the last however many years.

15 MEMBER MCCORMICK: Six years --
16 forever.

17 MEMBER GOODIN: Yes. So, the
18 background information kind of lays out that we
19 have a funding issue that we had some long-term
20 sustainability questions, that we have got a lot
21 of competing needs for this bundling supply of
22 money. And ITS has always had, it has always been
23 a challenge to prioritize ITS with the many kind
24 of demands on funding we have.

1 And so given that we don't see, and I
2 am speaking for the subcommittee, a change in that
3 dynamic at all, that the way that we are approaching
4 this is that the implementation and a significant
5 portion of the funding is more and more being taken
6 up at the state and local level.

7 So you know, you look nationally and 60
8 percent of the funding of transportation happened
9 at the state and local level. So, federal is
10 important but when we get down to the
11 implementation, it is happening at those levels.

12 And so the way we kind of went at this
13 is to say the federal role can really enhance the
14 implementation and stimulate the funding at the
15 state and local level through pilots,
16 demonstrations, seed money for deployment. So,
17 our first recommendation is really saying we need
18 an infusion of money to continue to expand on what
19 we have, what DOT has done in these kinds of
20 demonstration and pilot projects in a lot of
21 different areas but in ITS similar to what is going
22 on down at the Connected Vehicle pilot, which they
23 haven't announced those pilot programs.

1 But what that does is that it provides
2 a way at that local level for policymakers to
3 understand the direct benefits of the
4 implementations, so that they can look at not just
5 rely on federal money to support deployment but
6 looking at how do we now take this shrinking pie
7 and either expand that pie with more money or carve
8 the pie differently, so that we are allocating
9 money that may be going to capacity expansion and
10 now look at how ITS can fill that data and address
11 the needs.

12 So, the amount of money that we proposed
13 here, and just I don't have a feel for this \$200
14 million in annual funding on top of research is a
15 significant amount, just based on what I understand
16 about JPO's budget. And it could be that in
17 conversations that I have had over the last couple
18 of days, we need to say that may be a number that
19 all of a sudden it is like, that is out of the
20 question. We might want to look at what you would
21 get for \$200 million versus \$100 million versus \$50
22 million and have some different options.

23 On top of that, the second

1 recommendation really relates to looking at
2 innovative funding, innovative financing for ITS
3 and Operations. So, this is a way of making the
4 pie bigger. We have some experience in the U.S.
5 and internationally but infrastructure projects
6 where the public and private sector can be gathered
7 to implement those, there is a lot of examples in
8 different modes, et cetera. But we don't have a
9 lot of examples in ITS and Operations. There are
10 some but this recommendation rally points to
11 research that can explore how P3s could be used in
12 the ITS and operations area. Again, this is
13 another tool to kind of get the funding pie bigger.

14 So, that is the -- one thing I do want
15 to mention that we talked about in the first
16 recommendation with the money for demonstrations
17 is if you look at the three bullets there,
18 quantifying the cost of the benefits, I think we
19 have talked for many years about we need to be able
20 to explain the benefits of ITS but doing it in a
21 way that policy makers can understand for the
22 individual traveler for their agency, what does
23 this really mean. An assessment of how the cost

1 could change as you scale up from a pilot into an
2 implementation, program implementation.

3 And then also the last bullet here is
4 dedicated funding for communication and outreach
5 of the results. So, taking this very technical
6 information that we get from an evaluation but
7 translating that into ways of communicating so that
8 policymakers understand what that value
9 proposition is.

10 I have noticed in the last report for
11 this committee there was some recommendations
12 related to outreach and communications and I think
13 I remember from one of the earlier meetings that
14 that was kind of -- wasn't acted on. So, I think
15 we are trying to emphasize again there is a really
16 important role that communication plays and try
17 again to address it.

18 CHAIR WILKERSON: Would it be useful
19 referring back to that recommendation? I mean it
20 could be another inadequate system.

21 MEMBER GOODIN: Right. So, that is my
22 high-level overview. I would ask the committee
23 members if they have anything to add to what we have

1 presented here. Kirk, okay.

2 MEMBER STEUDLE: I would just
3 underscore the question mark of the \$200 million
4 annual on this.

5 MEMBER GOODIN: Right.

6 MEMBER KISSINGER: Peter Kissinger.
7 What is the, when you say over and above dedicated
8 research funding, is that over and above like the
9 current level or is that earmarks? I'm not sure
10 what that --

11 MEMBER MCCORMICK: This would be three
12 times -- this would make their \$100 million budget
13 go to \$300 million for the JPO.

14 MEMBER GOODIN: Yes.

15 MEMBER MCCORMICK: And I have two
16 concerns. One is that because it is such a growth
17 and because Ken Leonard said I wouldn't know how
18 to spend \$200 million, I think part of the
19 recommendation would be to have RITA consider how
20 best to manage those funds because it can't be done
21 with the current staff and they are certainly
22 probably not going to do it. It requires some
23 additional thought.

1 background is less in ITS and more in the congestion
2 pricing and managed lanes area. So, for the last
3 20 years, the federal government has been providing
4 funding for basically hot lane managed lane
5 projects. And those have demonstrated benefits
6 that have now led to much more implementation. So,
7 that is kind of how I was thinking about it. So,
8 it is really pilots that lead to ultimate
9 deployment or that become deployed.

10 CHAIR WILKERSON: Steve.

11 MEMBER ALBERT: Steve Albert. Just an
12 idea. Rather than focusing on some research cited
13 things, what if we change the tenor of our tone a
14 little bit to how we would accelerate deployment,
15 rather than how we might do a pilot that might lead
16 to something. It might be just a different tone
17 of what we would be recommending.

18 I mean I would argue, and I just came
19 from our National Rural ITS Conference that I have
20 chaired for many years and we had two or three
21 breakout sessions on Connected Vehicles. And
22 there are a lot of comments coming this way. But
23 I still feel that a lot of the ITS stuff has not

1 trickled down to local. And it could be more
2 palatable to politicians who might read this to say
3 if we were going to put a greater focus on a bottoms
4 up approach, getting ITS deployed in local areas,
5 not necessarily rural, it might have a different
6 tone it as well. Because I would argue, many times
7 FHWA never finishes what they start. They do a
8 demonstration and then they say, well, that is
9 going to trickle down to rural America and it really
10 doesn't. And then they say well, we have done
11 that. Why do we want to do it again? Well, you
12 didn't do it in the context of a -- so, I mean those
13 might be some things where we talk about in our
14 breakout meetings.

15 MEMBER DENARO: Bob Denaro. In the
16 past, we have avoided the explicit mention of
17 numbers and maybe we should continue that. I would
18 prefer, instead of saying arbitrary \$200 million
19 increase, I would rather see us even have that in
20 the body here, saying where are the gaps in the
21 funding and why.

22 When I think of our role as a committee
23 and where this is going to the Secretary and

1 ultimately to Congress, I think the value that we
2 can -- and I like the idea about acceleration. If
3 we believe that these are the intent, let's provide
4 some of that background rationale for people to
5 read. I mean we are one of the few documents that
6 gets read up to those levels. So, I think the value
7 we can provide is to articulate some of that, the
8 whys for this.

9 You know when you listen to Chris Urmsom
10 from Google talk, one of his main points he is
11 making these days is the number of fatalities on
12 the highways is equivalent to a 737 crashing every
13 working day. That is kind of cool to get that
14 message across and then plays into the
15 acceleration, every day that we don't implement
16 these things.

17 But when you talk about acceleration,
18 it is not just funding. It is NHTSA's involvement
19 and how they may help deployment via mandates. And
20 then what would the JPO role be in terms of the
21 research or what needs to be done to help that.

22 So, the summary of that is -- and I think
23 we have lots of words in here already but I would

1 like to focus on a lot of the whys. We, as the
2 expert committee of 19 or 20 people from around the
3 United States are telling the Secretary and
4 Congress these are the reasons why you need to find
5 the funding to go get this accelerator in place.
6 I think that is the value we can provide.

7 MEMBER MCCORMICK: Yes, the only
8 objection I would have is that I would want the \$200
9 million number to stay in there because I don't want
10 it coming back and says okay, there is your \$5
11 million when you are all done.

12 I want to put a stake in the ground that
13 says this is what we need and then, to your point,
14 this is why.

15 MEMBER DENARO: We didn't focus on
16 that. We would have to word it properly. The
17 difficulty is the JPO can't react to that. They
18 are not going to react to that. They are not going
19 to say yes, please give us \$200 million.

20 MEMBER MCCORMICK: That's all right.

21 MEMBER DENARO: So, if somehow we lob
22 over their head.

23 CHAIR WILKERSON: But that is a topic

1 you can discuss in your breakout.

2 MEMBER STEUDLE: So, this is Kirk
3 Steudle.

4 I somewhat disagree with what Bob just
5 laid out for what the intent of the committee is
6 and what the letter of recommendation is. I don't
7 feel that this letter should be the compendium of
8 all knowledge. It, frankly, is an Advisory
9 Committee to U.S. DOT that says here is what we
10 looked at. Here is things that you have got to come
11 up with answers for. It is not for the committee
12 to come up with the answers for. It is here is the
13 things that you need to work on, specifically, in
14 the next two years or whatever the time frame is.

15 So, I would lean more towards, no, these
16 are the recommendations and you, expert, DOT, you
17 pull in those other experts and help come up with
18 that. I don't think the need or the intent of our
19 letter, and I have sat on a couple of these
20 committees, is to tell DOT, here is all the
21 background and here is what you should do, and
22 exactly how to do it. I don't think that is the
23 intention of an advisory committee. The Advisory

1 Committee needs to look at it and say here is the
2 things that you have looked at. We recommend you
3 develop stuff around this and pull in your experts
4 to do that.

5 Because to say that this group of 19
6 people is the universe of experts, I think that is
7 too far. There is a lot of knowledge. I don't
8 mean to downplay anybody's knowledge here but there
9 is a lot of people in this space. And there is
10 people that do this for their job every day. And
11 that is really what the advice letter is to them
12 is to say okay, look, you are going off the track
13 here or here. You need to get back on the track.
14 Or look under this rug, and this rug, and that rug.

15 So, I just --

16 CHAIR WILKERSON: Well, as you have
17 that discussion, you know, looking at the charter
18 in number 4(c), it does, it says to a minimum, at
19 a minimum. And it does recommend appropriate
20 roles for government and the private sector and
21 investing. So, I think you can take a look at that
22 in your discussion. I have a copy there for you.

23 I have just one question. To the

1 extent that there are the federal grants, like the
2 TIGER grants, would they weigh into it? Are there
3 any issues that might tie into the grants? Because
4 a lot of the state localities are fighting for these
5 little bits and pieces for their intermodal
6 transportation or their local mobile transport
7 systems. Would that play a role in any of your
8 discussions at all? They are all competing for
9 that little piece.

10 MEMBER ALBERT: TIGER grants are more
11 geared towards large infrastructure projects.

12 CHAIR WILKERSON: I just wondered
13 because some of them are have intelligent
14 transportation proposals in the ones that I saw
15 that were submitted.

16 I know that they solicit different
17 companies to support some of the grants that were
18 being proposed and a lot of them were intelligent
19 transportation projects for local communities.
20 So, that is the only thing I was --

21 MEMBER DENARO: This is Bob Denaro.
22 Does domain of ITS include automation?

23 MEMBER GOODIN: Yes. According to

1 Strategic Planning, yes.

2 MEMBER DENARO: Yes. So what you are
3 addressing is conventional ITS, if there is such
4 a thing plus V2V, V2I and all of that.

5 MEMBER GOODIN: I was looking at it for
6 everything that is in the DOT.

7 CHAIR WILKERSON: Okay, great. So, is
8 it possible to loop to Public Transportation?

9 MEMBER GOODIN: Yes, unless there is
10 anything else.

11 MEMBER KISSINGER: Peter Kissinger.
12 On the second recommendation, I mean do you have
13 any specific examples of what you are looking for
14 there? I mean it strikes me that, again, putting
15 the money into actual pilots and demonstrations,
16 as opposed to sort of esoterically banding those
17 V2V concepts, it makes more sense to me but I don't
18 know what the intent was there.

19 MEMBER GOODIN: I did a very quick scan
20 of what research was available on this particular
21 topic and I didn't see anything out there. And I
22 think there is a lot of discussion about is there
23 a private sector role and what public assets could

1 be leveraged to bring outside money to the table.
2 And I mean we have seen this used effectively in
3 infrastructure projects to accelerate deployment.
4 Is there a way that those kinds of practices could
5 be used in ITS?

6 I don't know if there are examples out
7 there. I just haven't been able to see much, kind
8 of bits on the research, almost.

9 Kirk, will you talk about what you did?

10 MEMBER STEUDLE: Yes, so what one of
11 the questions on P3s is the spectrum and the
12 cellular carriers. And is there value from these
13 longitudinal corridors that are all wirelessly
14 connected? There is a lot of data moving back and
15 forth. Is there a value to that data to cell
16 companies or some other private company that could
17 be leveraged?

18 When you look at deployment of these in
19 urban areas, you can hang it on the background of
20 the ITS programs that states or locals have. When
21 we get to rural areas, there isn't an
22 infrastructure. So, the only infrastructure that
23 is out there is a cellular network and is there

1 enhancements that could be made because there is
2 data that is moving back and forth that is of
3 interest to a private company. That is the
4 question.

5 And frankly, I think in order for this
6 to roll out across the country, that is the piece
7 that has to get solved. It is the rural
8 connection. It is the rural back hall. Because
9 you know 80 percent of the miles are rural and there
10 is no public agency anywhere that is going to be
11 able to afford to instrument 80 percent of the
12 country.

13 So, then you are going to have it in just
14 the urban areas. Is there a value to that data
15 stream that is there? What is it? What does it
16 look like? Who is interested in it? I mean I have
17 had companies approach me about it.

18 (Simultaneous speaking.)

19 MEMBER BERG: Do you think the cellular
20 guys would know that already? I mean, they have
21 people whose job it is to expand their business.
22 And if automotive and that data was an integral part
23 in somebody's business plan, they would know. We

1 haven't seen it. So, I tend to believe it is not
2 there. It is not really a compelling reason for
3 it.

4 MEMBER STEUDLE: Well but that is the
5 reason that this is in here because -- entertain
6 it; see if it is. Have the conversation. Because
7 if it is not, let's quit fooling ourselves. We are
8 not going to deploy these in 80 percent of the
9 country.

10 MEMBER BERG: And like record the
11 results so people understand. That makes sense.
12 That I buy.

13 CHAIR WILKERSON: Right. Okay.
14 Well, before we go -- we have some visitors from
15 the public. Could we go around the room and if you
16 could give your name and your affiliation? And
17 then we did have a question. There is a gentleman
18 over here who has a question.

19 MR. BAYLESS: Sure, Steven Bayless,
20 Vice President of ITS America.

21 MS. WARNOCK: Jill Warnock, I'm a legal
22 assistant at Harris, Wiltshire & Grannis.

23 MR. MATHEWS: Spencer Mathews with

1 Volkswagen Group Government Affairs.

2 MR. SPENCER: I'm Jeffrey Spencer,
3 Federal Transit Administration on the ITS Team.

4 MR. HOEFT: Bryan Hoeft with the RTC of
5 Southern Nevada.

6 CHAIR WILKERSON: Thank you so much for
7 being here.

8 And you had a question or a comment?

9 MR. SPENCER: Yes, well, actually a
10 comment to address Ginger's point on the
11 public-private partnerships.

12 The FTA does not have a current
13 strategic plan but we do have a business plan that
14 was recently approved. And it really leverages
15 those public-private partnership. We are looking
16 at the shared economy in an effort called mobility
17 on demand. We are looking at situational
18 mobility, demand of responsive mobility that is
19 companions to fixed route transit.

20 Susan Shaheen and I have worked many
21 years for this stuff, you know car sharing, bike
22 sharing, things like that. There is such a
23 movement in that.

1 The second part of that is also engaging
2 with the internet and big data. How is data going
3 to drive that economy? So, the public-private
4 partnerships are a huge part of the model going
5 forward in our research.

6 A second point, and Mr. McCormick
7 pointed out that when you keep calling it
8 demonstrations, et cetera, we finally need to get
9 to the point, well especially in transit, and Mr.
10 Calabrese can probably back me up on this, when we
11 throw it over the fence and say it is now
12 deployment, it now competes with all of the other
13 regular funding. And for a transit discussion and
14 when you get down to medium, and even smaller
15 agencies, rural agencies, it is competing with do
16 I buy another bus, do I fix the ones I have, or do
17 I invest in transit technology? You know what that
18 answer is, often times. So, we need to fix that
19 issue, especially in the language that goes to
20 Congress because they always like to see
21 deployments, which is still needed, especially as
22 we move forward with these partnership and
23 demonstrate how they do work.

1 But yet the main stream, once it does
2 go over the fence, we need to have a way to encourage
3 and enable.

4 CHAIR WILKERSON: Great, thank you.
5 That was very insightful. Steve.

6 MEMBER ALBERT: One thing we might want
7 to think about, and I apologize for new ideas that
8 should have been brought up earlier.

9 CHAIR WILKERSON: No, that's great.
10 That's why we are here.

11 MEMBER ALBERT: Some third bullet on
12 underserved markets, whether those be rural, for
13 instance, where they dealt when rural areas don't
14 have power and don't have communications, how do
15 you roll this stuff out. And the institution is
16 quite frankly, as we said, probably greater in
17 rural areas. And you have to not only deal with
18 the state DOT but the counties, and the villages,
19 and the blah, blah, blah, blah, blah, and the scale
20 of things may be a little bit different. If you
21 have road closures, the alternative routes are
22 probably 150 miles away versus just your next
23 intersection.

1 So, something relating to that or
2 bringing these underserved markets up so that we
3 can achieve national deployment might be a good
4 idea and what kind of partnerships might you need
5 to carry that forward.

6 CHAIR WILKERSON: Okay, great. Any
7 more comments?

8 Okay, so that is a great transition to
9 Joe. Maybe we can start with the public
10 transportation, Public Transit.

11

12 **PUBLIC TRANSPORTATION**

13 MEMBER CALABRESE: Thank you. And
14 thanks to my committee. Some really, I think, some
15 basic things. I think we are recommending we take
16 a multimodal approach to our recommendation. We
17 know that the Secretary is very into multimodal
18 approaches. I think you have our two-page report.
19 Public transit ridership is growing. I think
20 there are a number of factors for that. Number
21 one, the population is increasing. Urban centers
22 are growing. We are become older as a nation and
23 seniors are more likely to use public transit. But
24 I think this is big, it is important, 800 pound

1 gorilla is the millennials, our younger brain
2 trust, are moving more towards walking, biking,
3 using public transit. Driving an automobile is
4 not a necessity of life as it was with my
5 generation.

6 Public transit is safe but has the
7 ability to increase the capacity of our
8 transportation systems I think in a very positive
9 way.

10 Some of the reasons why public transit
11 has not been better utilized, overall image and
12 attractiveness, the perception of safety -- not the
13 reality of safety but the perception of safety.
14 When there is an accident on public transit, you
15 know we had a terrible accident here a few months
16 ago with WMATA where 19 people were killed. Again,
17 that is a one hour on our roadways in the country
18 but many, many months of PR on it. And the lack
19 of significant frequency of public transit and
20 again, that is limited by funded.

21 So, there is really three
22 recommendations. Public transit is safe. It
23 could be safer. How can ITS technology be used to

1 enhance the safety of buses and trains? I think
2 that 99.9 percent our discussion here is
3 automobile-related not public transit related.
4 How do we take some of these technologies and put
5 them on our buses and trains to it makes those
6 systems both safer and a higher perception of
7 safety. I think that is really important.

8 The model for Ford or GM to say our cars
9 are the safest might drive more sales but then
10 economic model doesn't exist in public transit.
11 If the government doesn't do it, it's not going to
12 get done, quite honestly for some of the reasons
13 Jeff stated.

14 So, again, we are looking to further
15 prioritize. When I have asked the questions in
16 this room before, we will deal with cars first and
17 we will deal with buses and trains down the road.
18 I don't know that it should not be reversed. I
19 think we should sort of deal with buses and trains
20 at the same time.

21 From a deployment perspective, in most
22 cities there is typically one transit system in
23 every major city. There is a limited number of

1 decision-makers, a limited number of facilities so
2 the deployment would be much easier and, I think,
3 the roll out would be much better. That is number
4 one.

5 Number two, public transit could be
6 more attractive to customers. How do we increase
7 its image? I think a lot of studies have gone to
8 say the better real-time information we deploy, the
9 better information we give to our customers, the
10 more utilization there would be. The problem is
11 there is hundreds, maybe thousands of different
12 systems out there. There really isn't a standard.
13 There isn't a technology standard for these systems
14 and maybe there needs to be.

15 In the meantime, every public transit
16 system is paying -- you know this is a great
17 public-private partnership -- paying the same
18 developer or company money to develop the same
19 product for them. So, maybe there could be one
20 standard to better utilize the government's money
21 so more money can be going to deployment versus
22 continuing to develop the same technology.

23 And lastly, what can we do? Public

1 transit, we don't like to refer to ourselves as an
2 assembly line but we really are. The quicker our
3 buses and trains go, the more cost-effective we
4 are, the more services we can provide. What ITS
5 technologies can be used to increase the efficiency
6 and the speed of what we do? Certain
7 organizational systems enhance real-time
8 information. All this stuff is really great but
9 if we can coordinate that stuff and focus on ITS
10 technology for public transit, I think we will get
11 a great bang for our dollar. Done.

12 CHAIR WILKERSON: Perfect.

13 MEMBER MCCORMICK: This is Scott
14 McCormick. You know I think you made a point in
15 here that resonates very well with one of the other
16 previous committee's statements, where you said,
17 unfortunately, the advantages of these tools are
18 not universally recognized. And what I really was
19 struck by was the fact that the JPO, the DOT, they
20 give their webinars and their different
21 discussions on various topic areas that that could
22 very easily be reported that some of those that I
23 have sat through would support educating that if

1 they just made sure you guys were all invited. You
2 know I mean it goes out to their mailing list as
3 opposed to specifically identifying people in the
4 transit industry, since there is a limited number
5 of them, and say hey, we are going to do exactly
6 what you say here is explain this technology. So,
7 I think there is at least a partial solution to
8 answering part of that problem and it would be very
9 easy to implement by the DOT.

10 MEMBER CALABRESE: I mean this might
11 not address all the rural areas but there are
12 probably 20 transportation providers in the
13 country that serve 80 percent of the customers.

14 MEMBER MCCORMICK: Well, we'll invite
15 John Deere.

16 CHAIR WILKERSON: They are using
17 intelligent transportation. They are. They have
18 GPS, they have all kinds of intelligent --

19 MEMBER MCCORMICK: They do. They have
20 a very sophisticated system.

21 CHAIR WILKERSON: Very sophisticated.
22 Maybe that is a topic we can add.

23 MEMBER KISSINGER: Why did APTA do this

1 or why doesn't APTA doing this?

2 MEMBER CALABRESE: Well, I don't know
3 that it is APTA. APTA tries to consolidate, I mean
4 try to coordinate needs but APTA really doesn't
5 have any funding source to do these things.

6 You know the other reason is many of the
7 technology providers are ATPA members. So, there
8 may be some inherent problem with that.

9 MR. SPENCER: If I may, some of the
10 problem we see is highway departments, et cetera,
11 have staff. They have the engineers that are ITS
12 trained. They have technicians, et cetera.
13 Transit agencies don't have that bandwidth. So,
14 often times, the target market misses. You can't
15 get a GM to sit down in a meeting all day. He
16 doesn't have time to do that. And then when he
17 delegates, it is usually procurement person or
18 something who doesn't have the technical capacity.

19 MEMBER CALABRESE: Our biggest issues,
20 by far, as an industry, are implementing technology
21 solutions but it really is very difficult.

22 CHAIR WILKERSON: Okay, Steve.

23 MEMBER ALBERT: I was going to meet

1 with Ken Leonard on this but now, I guess, is a good
2 time to bring it up and it is related to this.

3 One of the hats I wear is for FHWA is
4 the Center of Excellence for Workforce
5 Development. And it seems to me when you look at
6 ITS or you look at Connected Vehicles workforce
7 development, we are approaching a perfect storm.
8 We have 50 percent of our staff are leaving. We
9 have Connected Vehicles coming forward. You can't
10 hire IT people. You can't pay them enough to be
11 in transportation. And I don't hear anywhere in
12 here, in any of our recommendations, or any of the
13 discussions at a national level, AASHTO, TRB, et
14 cetera, and I have met with leadership, anything
15 regarding workforce development, how we are going
16 to fill those gaps.

17 MEMBER CALABRESE: And those will be on
18 IT. It goes to the people who fix our buses and
19 trains. There is a very different mechanic we are
20 looking for today. It is really a technician and
21 we can't find them. We have got to grow them. We
22 have got to train them. We have got to develop them
23 and it is a very critical issue.

1 MEMBER MCCORMICK: Doesn't the
2 Professional Capacity Building Program at DOT
3 support anything for transit? I haven't looked at
4 it so, I don't know.

5 MEMBER ALBERT: No, nothing. Not that
6 I know of.

7 (Simultaneous speaking.)

8 CHAIR WILKERSON: One at a time.

9 MEMBER ALBERT: Madam chair, if we
10 treat this as a separate cross-cutting issue, I
11 would be glad to try to lead it.

12 CHAIR WILKERSON: Is there any way to
13 incorporate it in any of these? I was just trying
14 to figure out whether it is --

15 MEMBER ALBERT: It might be and maybe
16 that is something we put in the parking lot for
17 right now and kind of look at it as we go through
18 these. Or we do it as a standalone thing. But I
19 think as a committee, we would be doing ourselves
20 a disservice because we don't recognize what we
21 need in the future in terms of skills, and labor,
22 et cetera, et cetera. We can't just deploy things
23 and walk away. We have got to have the right people

1 maintaining them. And that work force is going ---

2 MEMBER BERG: Can we say that as part
3 of Scenario Planning? The scenario we see is an
4 uneducated workforce? Or how does that --

5 (Simultaneous speaking.)

6 MEMBER CALABRESE: To make it work,
7 there is actually a grant that the U.S. DOT has
8 approved but not authorized yet to set up an
9 apprenticeship training program for technicians.
10 We are waiting for U.S. DOT to approve that. But
11 no use 100 transit systems developing a hundred
12 programs. We need one universal program
13 nationwide that can be then propagated.

14 MEMBER MCCORMICK: Yes, and we they are
15 actually partway down that path because they are
16 incorporating the Connected Vehicle professional
17 credentialing program that they created into the
18 professional capacity-building so that it can be
19 moved into transportation engineers, et cetera, et
20 cetera. So, they are starting down that path but
21 I think adding to that recommendation, whether we
22 do it separately in Scenario Planning or in here,
23 that they pay more attention to it and add more

1 availability for those types of things into an
2 invitation to transit -- I'm sorry, this is
3 McCormick -- would be a very valuable.

4 MEMBER CALABRESE: Great idea.

5 CHAIR WILKERSON: That's a great idea.

6 Okay, so, Scott, is that possible to --

7 MEMBER MCCORMICK: You want me to
8 remember what I just said?

9 MEMBER CALABRESE: It's recorded,
10 Scott.

11 CHAIR WILKERSON: No, I mean hopefully
12 incorporate that into your Scenario Planning
13 breakout session. I think that would be great.

14 Any other comments on Joe's
15 presentation or comments?

16 MEMBER CALABRESE: The only question I
17 had and we talked about this a little last time,
18 should this be or not be separated from Shared
19 Mobility? I think there is a lot of similarities.
20 My concern is I don't want to dilute either one,
21 in terms of recommendations.

22 CHAIR WILKERSON: So, I think why don't
23 we plan to keep it here for now? And then as we

1 go through the Shared Use, there may be ways to cut
2 back, take that out of there and keep it in the
3 funding or vice-versa.

4 MEMBER CAPP: Well when we build the
5 actual lettering, it won't necessarily be broken
6 down by subcommittee.

7 CHAIR WILKERSON: No, no, no.

8 MEMBER CAPP: So, there is a chance to
9 move it around.

10 (Simultaneous speaking.)

11 CHAIR WILKERSON: I think just for
12 structure and priority, this is the way we have kept
13 it for now. Bob.

14 MEMBER DENARO: Bob Denaro. I am kind
15 of ignorant right now about the technology in
16 public transportation. But what you said before
17 about ease of use kind of strikes me as an area for
18 investigation.

19 If you look at one of the strengths of
20 Uber, it is the mind-dumbing ease of use of that
21 system with an app. It takes a lot of things out
22 of the equation and so forth for a lot of people.
23 And we are finding the public really gravitating

1 toward that. Now, arguably, I understand it is
2 people who own smart phones and that is not
3 everybody. But my question would be --

4 MEMBER CALABRESE: It's most people.

5 MEMBER DENARO: Well, it is getting a
6 lot bigger. Exactly. So my question is, is there
7 a need for something like that that is
8 technology-oriented for transit. I will give you
9 an example. I know that my prior company Nokia
10 HERE, as well as Google and Apple, are all working
11 on multimodal trying to provide routing
12 suggestions for you. So, if you go in there and
13 say I want to go from Dulles to the Crystal City
14 Marriott, it will give you various options
15 involving different modes of transportation, and
16 even attempting to fold schedules in there so that
17 you can kind of plan your trip based on when you
18 arrive and so forth.

19 They are not totally there yet. So, my
20 question is, rather than just leaving it up to the
21 private sector to do all these different things,
22 is there, and maybe there is a PDP to do this, but
23 is there a way to make transit become more

1 attractive through that kind of ease of use
2 technology and solution?

3 MEMBER CALABRESE: I think that
4 technology is there. I think I have technology.
5 I think Denver has that technology. I think Los
6 Vegas has but it is not the same technology. So
7 when you go from city to city, we need some standard
8 so that people who are traveling know it is the same
9 platform, the same technology and know how to use
10 it.

11 MEMBER DENARO: So, even within your
12 cities, does the public understand how to use that,
13 do you think?

14 MEMBER CALABRESE: Yes.

15 MEMBER DENARO: Okay.

16 MEMBER CALABRESE: I think we are
17 double or triple paying for it and the technology
18 isn't universal enough so that when I come here I
19 know how to use it because I know how to use it in
20 Cleveland or New York or Washington or Boston. It
21 should be the same.

22 MEMBER DENARO: So back to your comment
23 about standardization. Okay, great.

1 CHAIR WILKERSON: Okay, so that is
2 going to be incorporated into your Public Transit.
3 Okay, great.

4 MEMBER WEBB: George Webb. So, just a
5 question. In that last paragraph, it is just
6 terminology/semantics. Research is needed on
7 developing best practices. Typically I don't --
8 it is identifying or whatever. It is just the
9 wording or were you trying to do something else in
10 terms of consolidating or whatever? You mentioned
11 some of the things above as examples.

12 MEMBER CALABRESE: Identifying and
13 promoting. How about that?

14 MEMBER WEBB: Okay.

15 CHAIR WILKERSON: The other thing is on
16 these if we could take your last two statements --
17 the last sentences in each one is the actual
18 recommendation. If we could move those to the top
19 and similar to the other format, that would be
20 extremely helpful for our template.

21 MEMBER CALABRESE: This was our first
22 draft.

23 CHAIR WILKERSON: No, I think it is

1 great. No, it's already there.

2 Any more comments?

3 MEMBER BERG: I have one other real
4 nit-picky thing. It is just maybe just me. But
5 like in the second paragraph it says one of the
6 safest modes of travel. Then you say safe but can
7 be safer.

8 So, if I was somebody who wanted to
9 invest, or study, or research transit safety, I
10 would say -- I would worry about some other mode
11 because this is already one of the safest ones.
12 So, sure it can be safer but do you get more bang
13 for the buck for investing in safety in one of the
14 other modes?

15 MEMBER CALABRESE: I think the bigger
16 bang for the buck is to try to encourage more people
17 to use an already safe mode.

18 MEMBER BERG: So, it is not really
19 enhancing safety but the perception of safety.

20 MEMBER CAPP: Well, I think people are
21 using it because it is safe.

22 MEMBER CALABRESE: I think it is both.
23 When there is an accident on public transit, it is

1 always significant. There are few accidents but
2 those accidents are like that 747 that went down.
3 So, how do we -- we need to get them at zero.

4 MR. SPENCER: If I may, actually, when
5 you look at cost per crash, that is where it is.
6 It is reducing the liability costs because one of
7 the largest costs of transit agencies today is
8 liability. And so you don't have as many crashes
9 or the sphere of crashes because that is a low-speed
10 mode. It is the fact that it is like ten times the
11 amount of an auto crash. And then like you said,
12 public perception.

13 If you have two cars crashing, it is on
14 page seven of the Metro section. If it involves
15 transit, it is front page news.

16 MEMBER CALABRESE: Even worse, if
17 there are two buses with 20 people each that crash,
18 I have 127 clients.

19 (Simultaneous speaking.)

20 MEMBER MCCORMICK: This is Scott
21 McCormick. In looking at that Item 1, I guess it
22 just strikes me that it should be presented in a
23 more positive note. It is something that says

1 public transit is safe; however, mishaps can
2 oftentimes garner significant attention. But if
3 we are putting in but it can be safer and then,
4 rather than say how can ITS technology, we assert
5 the statement that ITS technology can.

6 MEMBER CALABRESE: I think that there
7 are a lot of -- you know there were a couple crashes
8 in the last ten years. Those crashes have mandated
9 the federal government to put regulations on public
10 transit. It could cost billions of dollars. And
11 again, there is something that the industry -- you
12 know right now there are standards for commuter
13 rail that the industry is having a real difficult
14 time implementing. So, the industry is trying to
15 get things safer but these are billion dollar
16 systems that aren't developed yet that keep pushing
17 the implementation dates back. So, I mean there
18 is a real need to strive in understanding that we
19 are trying to make this system safer already with
20 technology. And I think the industry needs some
21 help in doing that in a standardized way.

22 You can never be too safe. I think that
23 is one of the things we said.

1 MEMBER BERG: Agreed.

2 CHAIR WILKERSON: Okay, great.

3 MEMBER CALABRESE: We'll look at that
4 language.

5

6 **DATA**

7 CHAIR WILKERSON: Any other comments?
8 We used 40 minutes on Funding and we have used 20
9 on the Public Transit. We are scheduled for a
10 break but, if we don't need a break, we could move
11 to data. Would you prefer to keep moving? Okay,
12 great. So, why don't we -- are there any comments
13 on that? So, Bob.

14 MEMBER DENARO: And JIT, just in time,
15 in front of you is a revision to what you have your
16 book. Very hot off the press, right.

17 In content, it is essentially the same.
18 So, you are not seeing it anew. Just some editing,
19 primarily that improves the wording and so forth.

20 So, we went straight to
21 recommendations. And in keeping with the format
22 that we had in the last memo, we discuss it in a
23 brief paragraph, what is the issue, and then we
24 summarize that into a recommendation.

1 So, the first one is data policy
2 consistency, which really says that data sharing
3 is important but the policies differ widely between
4 the states and within the federal government and
5 so forth. So, the recommendation is that the Chief
6 Information Officer should convene a Connected
7 Vehicle forum, representing all the states,
8 hopefully, to drive consistent data policies
9 across the states. That is a big high ambition to
10 drive that kind of standardization but that is the
11 recommendation.

12 And any of my committee, please jump in
13 and add comments.

14 MEMBER BERG: I thought you might want
15 to include the automakers in that. It is not just
16 the state's data it is the state's data. It is the
17 automakers' data or the citizens' data.

18 MEMBER DENARO: Yes, that is a little
19 different issue, Roger. I agree because I think
20 what you are getting at is they are going to decide
21 what to share and what not to share.

22 MEMBER BERG: Absolutely.

23 MEMBER DENARO: So, I wonder whether

1 there should be two recommendations. See, I don't
2 know how the government gets involved in creating
3 standardization of data being provided from the
4 private sector.

5 This is dealing really with just the
6 policies of what can be shared. I have heard a lot
7 about concerns about liability. We, the city of
8 such and such or the state cannot share data because
9 we are worried about the liability if we do so. And
10 then a different state will have a different idea.
11 So, that is what we want to try and get consistency
12 about.

13 You are bringing up a very important
14 point but a little different.

15 MEMBER BERG: Isn't that the same
16 thing?

17 MEMBER CAPP: The approach to solve
18 that question may be different.

19 MEMBER DENARO: Yes.

20 MEMBER CAPP: It's probably a little
21 bit different.

22 MEMBER DENARO: Yes.

23 MEMBER CAPP: It wouldn't make sense to

1 the forum like this include not just car markers
2 but anybody who has got data.

3 MEMBER BERG: Perhaps any data source.

4 MEMBER DENARO: All right, let's take
5 that into our breakout.

6 MEMBER MCCORMICK: I think you ought to
7 be agnostic on who is sharing data. But I think
8 it would benefit from clarifying the top data
9 sharing in one of the first five words and then you
10 talk about data policy. And I think you need to
11 characterize that in terms of what the policy is
12 about. Is it about the ownership, the care and use
13 of it?

14 MEMBER DENARO: Yes, yes.

15 MEMBER MCCORMICK: Because a policy
16 can address many things and we want to kind of focus
17 on those three.

18 MEMBER DENARO: Yes.

19 MEMBER MCCORMICK: I think we want to
20 focus at least on those three topic areas, the
21 ownership, the care, and the use of it. Because
22 that clarifies, when we talk policy and the rest
23 of it, refers now back to those major elements.

1 MEMBER DENARO: Yes, I agree. That's
2 good.

3 Moving on to the next one, data
4 decomposition.

5 MEMBER MCCORMICK: Well, I had another
6 question.

7 MEMBER DENARO: Yes.

8 MEMBER MCCORMICK: And this is
9 actually for the U.S. DOT. Is the CIO the
10 appropriate entity to convene that? It may be, I
11 just don't know.

12 MEMBER BERG: I remember, I think it
13 was our last face-to-face, the CIO came and gave
14 this presentation.

15 MEMBER DENARO: Yes.

16 MEMBER BERG: And here is data and what
17 does it do for us. And so, yes.

18 MEMBER MCCORMICK: Okay.

19 MEMBER DENARO: I kind of like pulling
20 in an individual like that and throwing an action
21 on.

22 MEMBER MCCORMICK: I like it, I just
23 wanted to make sure that that was --

1 MR. SPENCER: Yes, for multimodal, you
2 want it at the Secretary's office level.

3 MEMBER MCCORMICK: Okay, thank you.

4 MEMBER BERG: Good questions.

5 MEMBER DENARO: The next one is data
6 decomposition. And again, talking about data
7 sharing policy needs to be harmonized. But what
8 we didn't hear from the CIO last time is that there
9 are levels or differences in policies, depending
10 on the types of data. And the example we are given
11 here, vehicle location might be a really
12 frightening thing because it has to do with privacy
13 and all those things for very good reasons,
14 whereas, something like local weather data,
15 sensing by a vehicle and being shared, shouldn't
16 be of concern to anyone, although there is a
17 position associated with that, potentially. But
18 the recommendation here is to look at data and
19 instead of as one big bundle of just data, let's
20 decompose that into different types of data and
21 perhaps imply that there are policies that are
22 different for each of those categories of data.
23 And we are not suggesting we know what those

1 categories should be. That is what we are saying
2 you guys, why don't you go work on that.

3 MEMBER MCCORMICK: I think within
4 fundamental -- Scott McCormick -- I think we can
5 fundamentally say that the stuff you are looking
6 to share is road, weather, and traffic information.
7 And if you characterize it as that, that takes it
8 out of the realm of personal vehicles right now.

9 MR. BUTLER: Perhaps but the point here
10 is there would be different buckets of seriousness,
11 concern, whatever studied. Just studies of levels
12 to help get past some of these roadblocks.

13 MEMBER BERG: What are the appropriate
14 categories.

15 MEMBER DENARO: So, and like with your
16 last suggestion, Scott, adding a little, for
17 example, detail, like road, weather and traffic,
18 is probably a good idea so that people can
19 understand what we are talking about. But I don't
20 want to just limit it to that. Maybe there is
21 something we didn't think about.

22 MEMBER MCCORMICK: Yes, but we
23 developed maybe different tranches.

1 MEMBER DENARO: The whole nature of
2 this --

3 MEMBER MCCORMICK: Personally
4 attributable versus publicly available.

5 MEMBER DENARO: The whole nature of
6 this big data things is we discover things we didn't
7 even know were there and we didn't know we could
8 find out from data. That is the exciting thing
9 about data.

10 Okay, the next one is other industry
11 data policies. And this one we had a little debate
12 about and I'm not sure that we came together. So,
13 maybe we can continue to discuss it. But this
14 actually came out in our last meeting. Someone
15 suggested what about looking at other industries
16 that already share data and one example is
17 healthcare. And they dealt with privacy and
18 security and those kind of things and done a pretty
19 good job. So, wouldn't it make sense to really do
20 some benchmarking against industries who currently
21 share data successfully and potentially mine any
22 concepts and ideas that could be used for vehicle
23 data sharing.

1 MEMBER MCCORMICK: You know that is a
2 really good point.

3 CHAIR WILKERSON: I was saying just
4 like wireless and healthcare issues.

5 MEMBER DENARO: There you go, wireless
6 is another one.

7 CHAIR WILKERSON: Issues when they
8 were trying to deploy devices that crossed over
9 from being a health device versus a mobile wireless
10 device. They addressed a lot of these issues.

11 MEMBER DENARO: Right.

12 MEMBER MCCORMICK: And at our last
13 committee, I think I had given to Ken Leonard, there
14 is 24 privacy regulations and they are very
15 specific for HIPAA, for financial transactions.
16 And that would be a perfect place, I am thinking
17 to mine or to look at some of those other data
18 policies because each one of those
19 recommendations, even though they are not
20 mandatory, they each identify at least at some
21 level their policy and intent. So, it might be
22 useful to mine it out of there.

23 MEMBER DENARO: And what are those

1 applied to, Scott?

2 MEMBER MCCORMICK: Well, there is 24 --
3 we actually have no comprehensive digital data
4 privacy law. But there are 24 regulations, in fact
5 actual law, if you read it, is how to create a
6 privacy law regulation.

7 MEMBER DENARO: Okay.

8 MEMBER MCCORMICK: And if you look at
9 those regulations, there is 24 of them -- I'm
10 sending the list to the committee. There is 24 of
11 them that say this is how our industry should deal
12 with data, et cetera, et cetera.

13 MEMBER DENARO: Which industry?

14 MEMBER MCCORMICK: It could be HIPAA,
15 for health information.

16 MEMBER DENARO: I see.

17 MEMBER MCCORMICK: Like I said, there
18 is 24.

19 MEMBER DENARO: Okay.

20 MEMBER MCCORMICK: Basically one was
21 written quite well and all of the rest of them were
22 sort of plagiarized off of that, characterized that
23 was our recommendation the first year to candidate.

1 And they would just take the one, plagiarize it,
2 declare victory and walk away for transportation.

3 But having said that, it just dawned on
4 me in this conversation that they do have a policy
5 statement in each one of those regulations.

6 MEMBER DENARO: Okay, cool.

7 MEMBER MCCORMICK: So, it might useful
8 to recommend, as part of the recommendation, to
9 look at the other privacy regulations that are
10 there for useful policy guidance.

11 MEMBER DENARO: Okay, cool. Any other
12 comments on that?

13 MEMBER RAJKUMAR: Well, Bob, I think I
14 -- Raj Rajkumar. It seems like recommendations 2
15 and 3, they seem like sub-recommendations of
16 recommendation 1.

17 And then I would like to comment that
18 recommendation 1 is the responsibility of the CIO
19 of your DOT and 2 and 3 are the responsibility of
20 the JPO. So, maybe they can be worded together in
21 in some form.

22 MEMBER DENARO: Okay, we will consider
23 that in the breakout.

1 MEMBER RAJKUMAR: The third comment is
2 good to hear the debate upon the black box. To me
3 it seems like that we need a black box of some kind
4 in cars.

5 MEMBER DENARO: Yes.

6 MEMBER RAJKUMAR: There is no cars of
7 any kind I don't know what kind of confusion it
8 leads to. I can imagine that would be a portion
9 of common data recorded and then car makers may have
10 to choose to add some options on top of that. There
11 is a lot of data from the vehicle.

12 MEMBER DENARO: Yes, I will confess
13 that I don't remember why we agreed not to address
14 the black box but we definitely wanted to do that.
15 Maybe some of the committee members can help us but
16 we can talk about that again in our breakout.

17 CHAIR WILKERSON: It kind of goes also
18 to the last recommendation, which I talked about,
19 the other things that test the vehicle.

20 MEMBER DENARO: Sure.

21 CHAIR WILKERSON: Not just that it is
22 embedded in the vehicle but like TMS, there is RFID
23 now with tires. There is all these other things

1 that touch the vehicle that will be transmitting
2 some kind of data. And that relates to -- well that
3 is more of embedded but it could be an aftermarket
4 device that is attached. There are all kinds of
5 things that can be attached. But that
6 recommendation 7 could possibly weigh in on that.

7 MEMBER DENARO: Okay. All right, the
8 next one is called GPS data reliability and
9 integrity. And in the one you have in your book,
10 I call out Nat Beuse specifically because he
11 brought this up when he presented to us.
12 Obviously, in our recommendations, I don't think
13 we want to put any individual's name in there but
14 he cited concerns about the critical functions of
15 GPS data. Having been in GPS for 40 years,
16 frankly, I was surprise to hear him say that but
17 very pleased to hear him say that because I think
18 there are concerns.

19 So, anyway, he mentioned GPS
20 vulnerability, natural as well as malicious
21 corruption. So, there are technologies being
22 developed to address those problems. And
23 recommendation 4 says basically JPO should convene

1 a forum, invite these technology presentations
2 from various industry participants who are working
3 on this. And I, personally, I have seen solutions
4 in ground-based, airborne, and space-borne
5 solutions. I know of specific potential solutions
6 from each of those sources to improve GPS
7 reliability and reduce its vulnerability.

8 So, this recommendation says invite
9 these companies in or whatever with an invitation,
10 in the *Commerce Business Daily* or wherever it goes,
11 and come in and talk about potential solutions and
12 just get that knowledge. And maybe from that, that
13 leads to solving the problem of GPS vulnerability.

14 MEMBER MCCORMICK: This is McCormick.
15 Under Recommendation 2, you say that it should do
16 this thing and then this is what they should do with
17 it to have this result of category data.

18 MEMBER DENARO: Yes.

19 MEMBER MCCORMICK: I think you need a
20 statement that says once you have convened this
21 forum, what do you want to do with it.

22 MEMBER DENARO: Yes, sure.

23 MEMBER RAJKUMAR: Bob, I like this

1 recommendation but I would like to see whether
2 there is a recommendation to actually use Wi-Fi
3 spectrum expansion with influencing, affecting the
4 safety data from BSM or DSIC, too. So, very
5 similar events.

6 MEMBER DENARO: Would that be a new
7 recommendation, do you think?

8 MEMBER MCCORMICK: Or would it be
9 protocol agnostic that you are talking about? I
10 mean it could be Wi-Fi, satellite. When you are
11 talking about GPS, you are talking about a
12 satellite transmission. So, if we make it
13 protocol agnostic, then it is the SRC Wi-Fi, other
14 providers of Wi-Fi, cellular, and satellite, which
15 we already have a body of knowledge about several
16 of those areas. But it is a worthwhile --

17 MEMBER DENARO: So, you are talking
18 about the vulnerability of say Wi-Fi in those
19 specific things.

20 MEMBER MCCORMICK: In those four
21 communication protocols.

22 MEMBER DENARO: Yes, yes. Okay, let's
23 consider --

1 MEMBER CAPP: This one was a specific
2 recommendation for specific --

3 MEMBER DENARO: Positioning. Exactly
4 right.

5 MEMBER CAPP: So, we kind of want them
6 to study this one. Maybe there is other things,
7 too.

8 MEMBER DENARO: That is why I asked the
9 question should that be a separate one and it sounds
10 like it might be. So, let's talk about that in the
11 breakout. That is a good suggestion.

12 The next one is called Connected
13 Vehicle effectiveness and it is saying that --
14 well, it is addressing this whole real world
15 effectiveness problem. There has been some study,
16 obviously, and quite a bit of study, about the
17 effectiveness about the proposed Wi-Fi solution.
18 But this really gets to is there sufficient data
19 being collected to really measure crash and
20 industry reductions from that. Peter, you might
21 want to expand on that because this was your idea.

22 MEMBER KISSINGER: No, I think -- Peter
23 Kissinger -- I think you have summarized it quite

1 well. I mean, the bottom line is we are spending
2 an enormous amount of money to bring this
3 technology to market. And oftentimes, in this
4 community, we forget about evaluating things when
5 we put them in place. And I think especially in
6 this case, that is absolutely essential. There is
7 going to be a lot of questions asked and we really
8 need to be prepared to do that. So, having the data
9 is part of it. We need to have an evaluation plan
10 ready before the stuff starts being deployed so
11 that we are ready to evaluate it.

12 MEMBER DENARO: So just to be clear,
13 this is about making sure we have a plan to collect
14 data and collect that data after things are
15 deployed. This is not something before that.
16 There is a lot of studying going on before. Let's
17 make sure we have a data plan after it is
18 implemented.

19 MEMBER RAJKUMAR: Peter, I will
20 comment. Raj Rajkumar. Could we increase the
21 flexibility into the language of the communication
22 architecture? It says first central server. It
23 could be that each data gets own central server.

1 So could maybe some flexibility there. Services,
2 something.

3 MEMBER MCCORMICK: Well it is just
4 communicated to whichever device the analytics and
5 evaluation will occur on.

6 MEMBER DENARO: Okay. All right, and
7 the next one is called safety defect
8 investigations. And commenting that the safety
9 related defect program at NHTSA has come under some
10 criticism, including Congress. And, again, data
11 could be important to this. You know use data from
12 Connected Vehicles to support defect
13 investigations. So, kind of a specific little
14 recommendation but one that could be pretty
15 powerful that maybe someone is already thinking of
16 this but perhaps not. So, that is our
17 recommendation.

18 Peter, do you have anything to add to
19 that?

20 MEMBER MCCORMICK: This is Scott. I
21 have a question for John. Am I understanding that
22 you are saying you ought to look into harvesting
23 specific information from the vehicle that they

1 would then evaluate preemptively?

2 MEMBER CAPP: I would take this
3 recommendation more broadly. It is just a
4 suggestion to look at that as an opportunity to do
5 their job better, right, and see where it goes.

6 MEMBER MCCORMICK: Okay, thank you.

7 MEMBER RAJKUMAR: Well, Bob, a
8 comment. Raj Rajkumar. This really talks about
9 safety and incidents but I guess we have seen a lot
10 of news coverage about security attacks recently.
11 Could we add security into this recommendation as
12 well? If we can track the number of security
13 attacks attempts on cars, that would be useful
14 information to have as well.

15 MEMBER DENARO: I think that would be
16 a separate recommendation.

17 MEMBER KISSINGER: Technically if
18 there is a security breach, it is a defect.

19 MEMBER RAJKUMAR: But it is not safety.
20 I agree with you.

21 MEMBER KISSINGER: It is a safety
22 defect.

23 MEMBER DENARO: Sheryl actually

1 brought this up in a comment and we didn't have
2 another meeting. But based on recent events,
3 should we have something in here about security.

4 CHAIR WILKERSON: Absolutely. You
5 should talk about that at breakout.

6 MEMBER MCCORMICK: I think it might be
7 a separate recommendation.

8 MEMBER DENARO: Yes, I agree.

9 MEMBER BERG: Didn't we do a security
10 recommendation last time?

11 MEMBER DENARO: Yes.

12 MEMBER BERG: So, is this going to be
13 different?

14 MEMBER DENARO: We'll have to look at
15 that last one and see.

16 MEMBER BERG: I don't think so.

17 CHAIR WILKERSON: You have to decide on
18 that.

19 MEMBER MCCORMICK: I think we had
20 covered it --

21 MEMBER BERG: Anyways, we can look at
22 it.

23 MEMBER DENARO: Yes, we should look at

1 it.

2 CHAIR WILKERSON: At our breakout
3 session, would you like us to do that?

4 MEMBER DENARO: Yes. Okay, and then
5 the last one, this was suggested by Sheryl and what
6 you mentioned earlier about aftermarket devices.

7 CHAIR WILKERSON: Things that are not
8 embedded, necessarily. We focused on a lot of what
9 is in the vehicle and what vehicle manufacturers
10 are incorporating in the vehicle. There are lots
11 of other devices that are touching the vehicle that
12 are connected. They might interact with the
13 infrastructure on the roads. They might have
14 their own infrastructure like RFID or RFID
15 transponders or TMS and other things that maybe we
16 should take a look at that and see if the
17 aftermarket or other automotive equipment
18 suppliers, what they are developing that could
19 promote safety mobility.

20 So, I think it goes back to a certain black box issue
21 cellometers. People are bringing devices in the
22 vehicle. For instance, for motorcycles, I know
23 there is a discussion about putting things in the

1 helmet but there are devices you can attach to your
2 vehicle to show that I am here.

3 MEMBER MCCORMICK: Who is going to
4 receive this data?

5 CHAIR WILKERSON: Well, it is just --
6 I don't know. Part of it is -- a lot of people
7 already are providing that data to their own
8 customers. So, they might have data coming from
9 a fleet that is providing safety data already to
10 their --

11 MEMBER MCCORMICK: I mean who in the
12 framework will understand the question. You are
13 asking the JPO to solicit information from the
14 supply community about what safety-related
15 information might be deployed or made available
16 that could provide information to safety
17 candidates but who?

18 CHAIR WILKERSON: I don't know.

19 MEMBER MCCORMICK: Because my point
20 is, what is the purpose of having the JPO collect
21 this, once the JPO is looking to harvest it.

22 CHAIR WILKERSON: To the public or --

23 MEMBER ALBERT: Steve Albert. I call

1 on ITS America for a second. And I don't know how
2 many people know this around the table but the U.S.
3 DOT, ITS America, AASHTO have all convened a big
4 working group that is going to be producing a report
5 in the next year and a half. I wasn't sure whether
6 the committee was aware of that because of the
7 questions of safety and who wants this data, where
8 does the data go I think will be addressed in that
9 report that is coming out.

10 MEMBER MCCORMICK: But the fundamental
11 principle is that if you purchase the car, you may
12 have access to it but they are the custodian for
13 you. So, the question here is that if JPO is saying
14 okay, Michelin has tire pressure monitors I want
15 to use or whatever and has useful information, what
16 do they do with this information? We are asking
17 the JPO to solicit information about what all is
18 there. The question is, okay what are you going
19 to do with that.

20 Do they use it for evaluating recalls?
21 Do they use it for that I know that your vehicle
22 has this type of information collected on it.
23 Okay, what? I can't get it if I am the JPO.

1 CHAIR WILKERSON: Right, there is some
2 that is proprietary. But there are other things,
3 for instance, when we were looking at the Connected
4 Vehicle with putting data in the helmet. Right?
5 That is not attached to a vehicle. It is part of
6 the --

7 MEMBER MCCORMICK: But it is
8 personally attributable.

9 CHAIR WILKERSON: Right.

10 MEMBER MCCORMICK: And you have some
11 major issues with personal attributable.

12 MEMBER CAPP: So maybe a little
13 specific of purpose.

14 CHAIR WILKERSON: We can revisit that.

15 MEMBER CAPP: It is going to help with
16 pedestrian safety? Is it going to help with crash
17 safety? Is it to help with traffic flow? And then
18 they can look at data accordingly.

19 CHAIR WILKERSON: It says here to
20 critical safety if they can improve road safety.

21 MEMBER MCCORMICK: Yes, but I think it
22 needs to be more refined.

23 CHAIR WILKERSON: Okay.

1 MEMBER MCCORMICK: Because otherwise,
2 it kind of opens a Pandora's box.

3 MEMBER CAPP: Yes, but we don't want to
4 suggest look at all the data in the world, decide
5 what you want, and find safety things. You want
6 to tighten it so that there is a project that could
7 come out of it.

8 MEMBER MCCORMICK: But the point is
9 that if you are recommending that the JPO do
10 something, they ought to have some measure or
11 purpose for doing it.

12 MEMBER CAPP: It should be part of
13 their mission.

14 MEMBER DENARO: There are two benefits
15 from those kind of devices, I think. One is that
16 you may have a type of data that you don't get in
17 a data box or by other means which might be of value.
18 And the second one is that if it is aftermarket
19 devices, it may have a lot faster and wider
20 deployment at early stage, compared to waiting for
21 OEM vehicles to roll out. So, is there some
22 benefit in exploiting the availability of that data
23 and maybe that is the nature of the recommendation.

1 CHAIR WILKERSON: Right.

2 MEMBER DENARO: Okay.

3 MR. SPENCER: Jeffrey Spencer. A
4 couple of questions, Mr. Denaro, please and I don't
5 mean to expand your scope. But the descriptions
6 you have just given are very much centric to
7 Connected Vehicles and automobiles. And so,
8 obviously, transit will take some benefit from the
9 Connected Vehicles source but there is a lot more
10 to data than just that. And I would impress to
11 major things. And that is that transit has a lot
12 of data. The problem is interoperability of the
13 data. For instance, an automatic passenger
14 counter data cannot talk to the fare box data and
15 cannot talk to the cab data, the dispatch or your
16 ABL data. So, there is this problem, especially
17 in our space, and these manufacturers or vendors
18 of these systems will gladly collect the data for
19 you and sell it back to you again, even though you
20 generated the data.

21 So, in a policy area, that is a big
22 issue. I mean to me that is almost ludicrous. It
23 is akin to buying a Microsoft package and then every

1 time you send an email they send you a bill. So,
2 there are some other data issues that need to be
3 addressed.

4 Right now the FTA is researching open
5 data standards and transactional open data,
6 especially for paratransit systems. So, maybe if
7 you could look at data beyond what is just
8 automobile and Connected Vehicles.

9 MEMBER MCCORMICK: Well, I understand
10 because if FTA is already evaluating those
11 standards, what are we recommending?

12 MR. SPENCER: Well, I think the key
13 here is it is the policy of interoperability and
14 establishing some platform of working together.
15 Again, if you have your auto manufacturer, which
16 the manufacturer may own the data in the private
17 vehicle, what does data do? Where do you realize
18 the synergy of the benefit?

19 And especially as the Internet of
20 Things and Smart Cities is growing, how do you mine
21 the data if it is all proprietary and you can't
22 collect it and translate it into something that is
23 usable?

1 So, the issue that I would say is that
2 we are data rich but information poor.

3 MEMBER DENARO: Yes, I could debate
4 with you on that but we will do that in our breakout.

5 CHAIR WILKERSON: Okay.

6 MEMBER DENARO: Because I have some
7 strong disagreements with parts of that.

8 MR. SPENCER: That's fine.

9 CHAIR WILKERSON: Okay.

10 MEMBER DENARO: All right, so that is
11 what we have so far. It looks like we have got a
12 lot of work to do.

13 CHAIR WILKERSON: So, it is now 9:30.
14 Do you want to take a break before we go into Shared
15 Use?

16 Okay, so we will take a ten-minute
17 break. We will be back at 9:45 or so.

18 (Whereupon, the above-entitled matter
19 went off the record at 9:37 a.m. and resumed at 9:51
20 a.m.)

21
22 **SHARED USED MOBILITY**

23 CHAIR WILKERSON: Okay, we are going to
24 go ahead and get started with Susan's presentation.

1 we have come up with is, obviously, a lengthy list
2 of possible aspects that could be examining. We
3 actually have 16 in a table at the back, which I
4 attempted to prioritize and rank, hoping that the
5 subcommittee could meet today and really talk more
6 deeply about the items that we think should be risen
7 to the top.

8 The other aspect, because I don't think
9 this is an appropriate to go through all 16
10 recommendations is to just describe that I think
11 we have got a lot of policy in here and trying to
12 understand what the role of the federal government
13 is Shared Mobility because there is, obviously,
14 different levels of governance. So, national,
15 state, local governance-related issues with
16 respect to policy and research on shared mobility.
17 But I think what we really wanted to focus on here
18 was the role of federal government.

19 And so what you will see in terms of the
20 list of recommendations is a very strong coupling
21 between a public policy role and a research role
22 because I do think that public policy is being made
23 here on literally a daily basis across the United

1 States on these issues and the absence of data
2 research and understanding, which I think has to
3 be done in light of how disruptive the spaces will
4 come. But I think our role here should be to look
5 at the relationship between public policy and
6 research. I think it is a really timely
7 opportunity for us.

8 And I think the big challenge that lies
9 for us because this is a lengthy document is trying
10 to figure out of these particular recommendations,
11 which ones should rise to the top.

12 And the other observation I would like
13 to make is that all of the previous subcommittee
14 recommendations, they are crosscutting with this
15 topic. So, I don't know exactly how we want to
16 address that but there is funding issues, you know
17 the issue of the pilots and the issue of research
18 performance metrics. I mean that is completely
19 crosscutting.

20 We also have the issue of public
21 transit. I believe it was recommendation 2 that
22 talked about an inferred smart applications, smart
23 phone applications as well as shared mobility

1 applications. And, as I have already mentioned,
2 a lot of shared mobility is operating in the absence
3 of data. So, that also, I think, comes over into
4 this discussion of the Data Committee.

5 And then finally, I would like to say
6 that Shared Mobility has been with us for a very
7 long time. It goes all the way back to the 1940s
8 worldwide. I have been tracking this for 20 years
9 and it has been around a very, very long time. What
10 is new about it now is it is being enabled by advance
11 technology. So, what we are seeing is not new. It
12 is just being accelerated and it is being
13 accelerated by the presence of venture capital
14 money as well as the diffusion of IT technology.

15 So, nothing is really new here but I
16 think the pace of this has really, really gone much
17 faster than I think a lot of us had ever thought
18 would happen. UberX Lyft was introduced -- Uber
19 was introduced in 2009 but it was a really a black
20 car service. It was in August of 2012, just three
21 years ago that these new community-based driver
22 services came online. So, I just wanted to make
23 sure you guys were clocking that and thinking like

1 who would have thought that three years ago we would
2 be where we are. And I think three years from now
3 we are going to be in a vastly different place. And
4 so what is the role of government and what is the
5 role of research in guiding and developing and
6 nurturing this incredible disruption that we may
7 have not seen for over 100 years.

8 So, that is sort of my overarching
9 comments and I think a lot of this should just go
10 to subcommittee for discussion for now because 16
11 recommendations I think are too much to handle in
12 an overview.

13 Thoughts and comments?

14 CHAIR WILKERSON: So, however, for
15 those who might not be -- have already given some
16 thought or recommendations, was there anything you
17 would like to raise?

18 MEMBER MCCORMICK: Well, it is
19 probably too much to go over but maybe if we could
20 get a one or two liner of what the recommendations
21 are kind of in the framework?

22 MEMBER SHAHEEN: Do you really want to
23 do 16, though?

1 (Simultaneous speaking.)

2 MEMBER MCCORMICK: Just what is the
3 point of each one.

4 MEMBER SHAHEEN: Okay.

5 MEMBER RAJKUMAR: Yes, Susan, one
6 comment is that pretty much all of the
7 recommendations are worded as research could be
8 evaluated, we just couldn't examine -- could seems
9 kind of soft.

10 MEMBER SHAHEEN: Okay.

11 MEMBER RAJKUMAR: So, I think things
12 should be should. Should be evaluated.

13 MEMBER SHAHEEN: I love it. I think
14 that is right. If we are going to go with should,
15 that would be wonderful. Thank you for that.

16 So, the first one is federal policy
17 guidance. So, I basically think that there really
18 are no standard definitions that have been
19 integrated into law. I believe recently this
20 summer bike sharing was codified in the context of
21 being able to be used as something that you would
22 take employee vouchers or credits and you could
23 actually apply them to. This is the first time we

1 have really seen it codified in federal
2 legislation. So, there are no really standard
3 definitions from a federal standpoint, nor is there
4 a really strong integration of these definitions
5 of the various forms of shared mobility from a
6 legislative perspective.

7 And so I think that it is important that
8 we come up with better policy guidance on what these
9 things are that can be agreed upon. I would like
10 to just use the example of the transportation
11 network companies. The California Public
12 Utilities Commission developed the definition of
13 the TNC and that has been adopted now, I believe,
14 in 25 states in varying forms but very close forms
15 throughout the United States. There has been a sea
16 of change just within the last nine months with
17 respect to states actually adopting legislation to
18 any old TNCs to operate in their space. So, that
19 is an example of a definition.

20 Best practices I think with respect to
21 these yet -- just a second. I would just finish
22 this thought -- I think also need to be brought to
23 the table because I think there are not a lot of

1 documents that talk about best practices with
2 respect to governance and public policy and with
3 regards to shared mobility.

4 MEMBER KISSINGER: Peter Kissinger.
5 I guess I am having a little difficulty trying to
6 figure out whether shared mobility per se is
7 automatically within the purview of this committee
8 or are we just looking at the technology and ITS
9 through an aspect of shared mobility?

10 MEMBER MCCORMICK: Well, the way I read
11 your recommendation is that we are talking about
12 at the federal level, what are we recommending they
13 should do with addressing the policy.

14 MEMBER KISSINGER: Everything related
15 to shared mobility?

16 MEMBER SHAHEEN: Well, shared
17 mobility, at present, is enabled by ITS in some way,
18 shape or form. So, as I mentioned, these systems,
19 sharing is not new. Sharing economy is not new.
20 But what is new is that it is infused with logistics
21 management, information technology, instant
22 access. And that is all being done through
23 information technology.

1 So, I think it is a good question but
2 it is difficult for me to unravel how we would even
3 --

4 MEMBER KISSINGER: Well I hadn't even
5 thought of that.

6 MEMBER SHAHEEN: Yes, I am not sure
7 exactly how you would do that.

8 MEMBER MCCORMICK: I think if you
9 redirect the first one to Victor Mendez, who is the
10 Deputy Secretary of Policy, as an active -- for him
11 to consider the research needs for the development
12 of policy, that is our reasonable recommendation.
13 Because then we push the decision of what is
14 relevant and appropriate to be looked at to his
15 office, which is the office responsible for policy.

16 MEMBER BERG: So is the recommendation
17 to tell him to do his job better?

18 MEMBER MCCORMICK: I'm sorry, I
19 couldn't hear that.

20 MEMBER BERG: So, is your
21 recommendation telling him to do his job better?

22 MEMBER MCCORMICK: I don't know that
23 the ride share aspect is part of his purview at

1 current.

2 MEMBER BERG: Okay.

3 MEMBER MCCORMICK: And so we are not
4 saying that it is but what we are recommending is
5 that he consider whether there is any policy
6 elements that you just described that would be
7 appropriate to his venue. To my knowledge, they
8 are not doing anything with ride share policy. And
9 maybe they make a decision -- I mean our
10 recommendation is just to say well we think maybe
11 you ought to do this. They can always come back
12 and say not my job or we are doing it already.

13 MEMBER SHAHEEN: I mean I think one of
14 the issues is shared mobility has been a novel-ish
15 topic for a long time but now it is moving to the
16 main stream. And the scaling of it is starting to
17 signify mainstream. Billions of dollars are being
18 exchanged and spent on this by automakers, car
19 rental companies and it is not being captured by
20 any public entities.

21 But the impact on the public on the
22 traveling system on the network itself could be
23 dramatic. So, I welcome advice on how because I

1 struggled with understanding exactly how to
2 transform these into recommendations for Congress
3 or for FTA or for the Joint Programs Office exactly
4 how to do that.

5 But I think this stuff is falling
6 through the cracks and clearly, you go to tier B,
7 you go to almost any major conference in
8 transportation today and what are you talking
9 about? This disruption, right? It's happening.

10 MR. BAYLESS: I was just going to say
11 -- oh, I'm sorry. Steve Bayless, ITS America.

12 I was just going to say that it is
13 difficult to figure out what the federal role is
14 and you'd probably have to dig a little bit into
15 that. I used to work at DOT and I don't know the
16 answer.

17 But one of the things I do know is that
18 transit agencies probably they deal with FTA and
19 they probably would ask FTA at some stage, well,
20 what am I supposed to make of these mobility on
21 demand services. Am I supposed to integrate with
22 that or can I integrate with them? Are they
23 competitors to me or complements?

1 MEMBER CALABRESE: Or can I compete
2 with them?

3 MEMBER SHAHEEN: Exactly.

4 MR. BAYLESS: Yes, so at least you may
5 need to equip at least someone in the department
6 with some of these answers so that transit
7 stakeholders can sort of understand. Maybe not
8 panic. Maybe there is nothing there. Maybe there
9 is good news for it there.

10 (Simultaneous speaking.)

11 MEMBER BERG: I think that is what
12 Susan was mentioning. It is becoming a big enough
13 deal where there should be some federal oversight
14 on how this effects the transportation system in
15 general. And that is the recommendation. Find
16 out what to do. We don't know what to do. It is
17 not our job to say what to do.

18 MEMBER SHAHEEN: But if it is slipping
19 through the cracks, from a federal standpoint, I
20 think what -- is to raise this issue. Right?
21 Say this is slipping through the cracks and I
22 monitor this on a daily basis. And all I am
23 watching on a daily basis is more people are going

1 to this and more and more footprinting throughout
2 the country and in suburban areas and rural areas.
3 I mean the discussion is starting to expand outside
4 the urban areas. And I mean my God, the investment
5 that is happening outside of the U.S. is huge.

6 So, ultimately, maybe that is our
7 recommendation is that this is falling through the
8 cracks and somebody has got to catch it.

9 MEMBER BERG: Put this on your radar
10 screen somewhere. We don't know where. We can't
11 tell you where but somewhere it has got to be
12 addressed.

13 MEMBER JOHNSON: And I would say even,
14 and you talked about this, Susan, is that when you
15 look at public transportation, you are talking
16 about there is lack of regulation and then we, as
17 a Transit Agency can't compete. And sure you want
18 to call into effect the first and last mile. But
19 then again, when you have these small
20 transportation networks that have these community
21 routes and people can afford to pay for them, and
22 then you have people that are transit-dependent
23 that barely can afford a bus pass, you are creating

1 this inequity that is just --

2 CHAIR WILKERSON: It is a tiered
3 system.

4 MEMBER JOHNSON: Exactly, it is a
5 two-tiered system. But we would be remiss not to
6 broach this at a higher level because we are going
7 to create this --

8 CHAIR WILKERSON: Tier-weighted
9 system.

10 MEMBER JOHNSON: Exactly. Totally
11 leaving these people that are transit-dependent
12 way, way, way behind.

13 CHAIR WILKERSON: There was one
14 comment in the back there.

15 MR. SPENCER: Yes, Jeffrey Spencer,
16 FTA.

17 In support of what Susan is talking
18 about now, we had a lot of discussion about what
19 is -- is it a competition or is it complementary.
20 And that is what MOD is doing. It is a visionary
21 look at how do we incorporate these things. Now
22 already DART in Dallas and MARTA in Atlanta have
23 cooperated with Uber, et cetera to do first

1 mile/last mile. And so we are seeing a transition
2 into that.

3 The big issue at the DOT level is what
4 is the capital investment on expanding our
5 infrastructure? We just can't keep doing it. As
6 population grows and things like that, we have to
7 make better use for infrastructure. And it is more
8 about moving people, not moving vehicles.

9 So, how do we leverage that, using the
10 shared economy? And so those are policy-level
11 issues at a higher level to look at what does the
12 DOT need to do. What is the leveling of that
13 playing field and how do we develop those
14 public-private partnerships that make things
15 happen?

16 MEMBER SHAHEEN: I can say that
17 recommendation number 4 I think is very related to
18 your comments and Jeff's as well. Bob Sheehan, who
19 I believe is going to with us a bit later and Matt
20 Nobles who used to be with FTA -- or he is now with
21 Nobles but he used to be with FTA, they joined our
22 subcommittee calls and they actually made a
23 separate presentation. And one of the things that

1 they were saying is that FTA and the Joint Programs
2 Office is already starting to look at these kinds
3 of things. So, maybe we could have a
4 recommendation that would help elevate this and JPO
5 in the multimodal program and at FTA that would help
6 them be able to grab this.

7 So, maybe one in four kind of get
8 combined but I'm not exactly sure.

9 CHAIR WILKERSON: Hold on one second.
10 Kirk was next, Steve was next.

11 MEMBER STEUDLE: Kirk Steudle. As I
12 think about the shared mobility and the
13 opportunities, particularly in the transit area,
14 the piece that seems to get forgotten a lot is rural
15 transit. I've spent a lot of money on rural
16 transit sending people to specialized services.
17 In some cases, a ride might cost \$25 to get somebody
18 to a doctor in a rural area that I would love to
19 have that money redeployed in some more efficient
20 manner. And I do think the shared services piece
21 is interesting but it is availability. That
22 becomes a target. Rural transit becomes a target
23 quite often because the ridership costs are very

1 high. But if I pull out this phone and pull up
2 Uber, there is nobody within 100 miles of most of
3 those cities. And I will go back again, 80 percent
4 of the country is very rural.

5 So, I think the piece that is missing
6 here is how does it fit with rural transit needs.
7 You get the small town in Kansas, okay, great.
8 They still need some kind of buses and they need
9 to get to the doctor. They need to get to whatever
10 appointment.

11 MEMBER SHAHEEN: And I think this is
12 the role of government to look at this issue because
13 I live in San Francisco, I work in that area. I
14 meet with these companies on a regular basis. They
15 are not going to go into this unless there is a
16 public-private partnership. And without that, I
17 don't think this is going to happen or happen in
18 the way you all envision.

19 So, again --

20 MEMBER STEUDLE: We are getting stuck
21 with -- the Transit Agency is going to be stuck
22 with, as Debra said, the expensive riders. And you
23 role that out 10 or 15 years and you are going to

1 go well, look how inefficient these are because
2 they have such huge expenses. Well, because that
3 is what nobody else wanted to do.

4 But it is more than just underserved
5 urban populations. It is rural populations as
6 well.

7 MEMBER CALABRESE: If it is the rural
8 population or in Cleveland, I would be much better
9 off subsidizing an Uber from midnight to 4:00 in
10 the morning than to run full-size buses and trains.
11 But yet if I do that, from a liability perspective,
12 if I have an agreement with Uber where I subsidize
13 half the cost to make it affordable and that Uber
14 vehicle has an accident, am I now liable? So,
15 there is that liability issue as well. If I
16 contract with them, am I then liable?

17 I do some contract services. I require
18 people to have a boatload of insurance. But with
19 an Uber or some of these systems, that is not
20 possible.

21 So, I don't know if that is or isn't
22 relative to this. But it is relevant in the day
23 to day operations.

1 CHAIR WILKERSON: Okay, Scott.

2 MEMBER MCCORMICK: I am wondering if
3 the team is supposed to look at not just the shared
4 use and the transit but to look at how the traveler
5 behaves. Because I drive my car to the airport.
6 I fly somewhere. I take a shared vehicle of some
7 way, shape, or form to wherever I am going to the
8 conference/meeting/hotel. I take the Metro to get
9 from there to somewhere. Maybe I end up taking
10 Uber, a taxi all in the course of one trip.

11 And I can get all of that instruction
12 on my map app. Right? I mean I can get what all
13 of my options are when I plan that trip just on my
14 phone. So, when we look at just Shared Use, we are
15 just looking at a piece of that whole ecosystem,
16 the whole spectrum. And so it might worthwhile to
17 extend that or just to think about extending that
18 across the spectrum because both federal, state,
19 and local agencies have authority over almost all
20 the other pieces. And they had to leave this piece
21 out of it, in terms of what they are having, to your
22 point, their oversight and peer review, probably
23 disconnects it in a way that is not beneficial.

1 CHAIR WILKERSON: Peter.

2 MEMBER KISSINGER: Peter Kissinger.

3 In the spirit of that last part, I mean I am
4 certainly supportive of a couple of broad
5 recommendations to get maybe DOT essentially more
6 engaged. But I am just sort of less excited about
7 17 recommendations on this topic some of which I
8 am not sure --

9 MEMBER SHAHEEN: They are actually
10 ranked, if you look at the table at the back on page
11 13. And I think the point was to be comprehensive
12 in providing a white paper. That was the objective
13 of the subcommittee was to provide a comprehensive
14 set of understanding of what some of the issues are
15 that may interface with the federal government.
16 We certainly were not recommending that all of them
17 be included.

18 CHAIR WILKERSON: The goal was to
19 better educate the subcommittee and then the
20 subcommittee would then --

21 MEMBER KISSINGER: That's fine.

22 MEMBER SHAHEEN: The subcommittee was
23 actually pretty robust and excited about the topic

1 and felt that there was a really long laundry list
2 of things that have to be dealt with. But I think
3 nobody on the subcommittee felt that this should
4 dominate the report to Congress but we wanted to
5 lay out, as members of the subcommittee, what the
6 issues might be that surround this because there
7 is far more than just four or two issues surrounding
8 that, as you can probably see if you open up a daily
9 newspaper.

10 CHAIR WILKERSON: Okay.

11 MEMBER ALBERT: Excuse me. One thing
12 you might want to consider is, and this addresses
13 both rural public transportation, maybe even
14 urban, but really more the phraseology of the
15 quality of life.

16 MEMBER SHAHEEN: Yes.

17 MEMBER ALBERT: Because many of the
18 transit applications which aren't traditional in
19 rural areas aren't about getting to a job. It is
20 about being able to get to hospitals or being able
21 to get to groceries and things like that. So, the
22 quality of life might be something that resonates
23 with folks who might read this.

1 And second, in the bike and ped stuff,
2 which we do a lot of, is really exploding in rural
3 America, like you have said, but also on federal
4 lands and national parks. I mean it is just
5 booming. Everyone wants a shared bike program in
6 almost every national park you can go to right now.
7 And to me, that is an opportunity. So, just a
8 suggestion.

9 CHAIR WILKERSON: Great comments.

10 MEMBER SHAHEEN: Yes, very, very
11 helpful.

12 So, I think that is good for now. And
13 then those who are really interested we can talk
14 a bit more.

15 CHAIR WILKERSON: So, the last subject
16 area that we have not raised was Scenario Planning.
17 Scott, my thought was that you thought we could
18 maybe discuss that as we do the subcommittee
19 routine, to have open dialogue about that. Is
20 there anything you would like to share about that
21 before we do breakouts?

22 MEMBER MCCORMICK: Well, I think I
23 would first like to understand the interest area

1 of the committee in terms of participating in that,
2 unless Roger and John signed up for it, just to make
3 sure I didn't do anything bad. CHAIR

4 WILKERSON: I will tell you about the breakout.
5 So, --

6 MEMBER SHAHEEN: I signed up for it,
7 too.

8 MEMBER MCCORMICK: I know but we
9 weren't able to coordinate a time and I just want
10 to find out if we do do a breakout on that, is there
11 enough people that want to participate in it to do
12 something?

13 CHAIR WILKERSON: So, based on the
14 chart and I looked at everyone's recommendations.
15 Here is how it would play out. So, right now, we
16 would have -- before our break, we have an
17 opportunity to give an hour or 45 minutes to each
18 one of the three topics, as discussed. And that
19 would take us to 12:30 to 1:30 for lunch and then
20 we could do the subcommittee reports and then
21 further discussion on what we want to do next with
22 the action items.

23 For Funding and Private-Public

1 Partnership, it would be Steve Albert; Joe would
2 get to pick either Funding or Scenario because he
3 was focused on his number one which was Public
4 Transportation; John would be in Scenario
5 Planning; Bob would be in Scenario Planning, that
6 was your number two; Ginger Funding; Debra Funding;
7 Peter would get to pick because he didn't have a
8 priority for those two; Scott would be, of course,
9 Scenario Planning; Joe would be in Funding, Tina's
10 not here; Roger would be in Funding; Susan would
11 be in Scenario Planning; Kirk would be in Funding;
12 George would be in Funding; and then I would be in
13 Funding but I would be happy to go to Scenario
14 Planning.

15 So that is based on how the priorities
16 were ranked. So, you have got a pretty
17 healthy -- you have got one, two, three, four, five,
18 six, possibly eight other total who would be in that
19 breakout session.

20 So, in the interest of time -- I'm
21 sorry. Bob.

22 MEMBER DENARO: Can I raise a question
23 that I brought up earlier?

1 CHAIR WILKERSON: Sure.

2 MEMBER DENARO: What about we don't
3 have a subcommittee on Scenario Planning, that we
4 do that together today for an hour and a half or
5 something, the whole committee?

6 There might be a lot of interest in it
7 and I think you mentioned earlier it is
8 crosscutting across all of these other issues.
9 Scenario Planning, in my experience, works best
10 when you have a good number of people and diversity.

11 CHAIR WILKERSON: Okay.

12 MEMBER DENARO: Scott, does that makes
13 sense?

14 MEMBER MCCORMICK: I agree. I whole
15 heartedly agree with that.

16 CHAIR WILKERSON: So, if we do Funding
17 from 10:20 to 11:00, Public Transportation as the
18 next, Data would be third, we could use Scenario
19 Planning as part of the report time or a third of
20 the 2:45, I guess.

21 Okay, let's backtrack a little bit. We
22 have got 10:20. My thought was that we have one
23 of the presentation breakouts from about 10:15 to

1 11:00 because we had talked about cutting back the
2 time. The second goes from 11:00 to 11:45. A
3 third would be 11:45 to 12:30 and that would get
4 us on track for lunch.

5 We could then go from 1:30 to 2:30 for
6 Scenario -- that is going to be a little tough. We
7 are breaking it out.

8 MEMBER DENARO: So, just so I
9 understand. The things before lunch are the
10 breakouts. Is that what you are saying?

11 CHAIR WILKERSON: Well, the breakouts
12 are throughout the rest of the day.

13 MEMBER DENARO: Right.

14 CHAIR WILKERSON: So, we can use that
15 time. I just wanted to, one, Scott had suggested
16 that we have some additional time at the end to
17 discuss not only the action items but other things
18 that we want to take up during the remainder of the
19 year.

20 We wanted to have an opportunity for all
21 of the subcommittees to come back and to provide
22 an update on anything further. That wouldn't take
23 too long, in light of the discussions that we had

1 but there would need to be ample time for one, two,
2 three, four, five breakouts. We could do the
3 Scenario Planning when we do the --

4 MEMBER DENARO: Or before now if
5 Scenario Planning is done jointly.

6 MEMBER MCCORMICK: Well, I do have one
7 other item I wanted to bring to the committee to
8 determine whether or not the subcommittee should
9 act on because it would serve us well to wait for
10 the next session. And it is a very simple
11 question.

12 CHAIR WILKERSON: Okay. So, you would
13 like to do Scenario Planning. Is it possible that
14 we can do that after we have had the breakout
15 sessions? That way you get the benefit of
16 everybody's input?

17 MEMBER MCCORMICK: Sure.

18 CHAIR WILKERSON: Okay, so let's see,
19 we need to then break out Funding, Public
20 Transportation and Data.

21 MEMBER MCCORMICK: Is there any
22 overlap between Public and Data?

23 MEMBER DENARO: And Shared Use.

1 CHAIR WILKERSON: Well, the problem
2 is, certain people will not be able to get -- there
3 is a lot of crossover. So, that is why it was
4 broken out. Some people would have to pick a
5 choice and not weigh in.

6 So, I think if we maybe reduce the
7 times, then it will provide ample opportunity.

8 MEMBER DENARO: Yes, because Shared
9 Use, if we do Scenario Planning together, Shared
10 Use moves up with thunder there.

11 CHAIR WILKERSON: But then that would
12 mean certain people who would be in those
13 categories would no longer be able to attend
14 Funding. Those people who picked funding would
15 not be able to participate.

16 MEMBER WEBB: George Webb. Is there
17 any overlap with Funding or Data that we could have
18 breakout groups of those? I don't see a whole lot
19 of them.

20 MEMBER MCCORMICK: I am not seeing any.
21 I'm looking at who signed up for what.

22 MEMBER WEBB: So, potentially, break
23 out into those groups separate for those 30 minutes

1 or whatever so you didn't have the individual time
2 if you chose to do a panel.

3 MEMBER GOODIN: Does that mean Public
4 Transportation and Shared Use go together in the
5 next slide?

6 CHAIR WILKERSON: There is a lot of
7 crossover on that one. We lose a lot of people.

8 MEMBER WEBB: I just picked what I
9 thought was the most obvious. The others could get
10 their own 45 minutes as far as being separate. I
11 thought that and Funding because just had enough
12 separate interest that they could go at the same
13 time for a breakout, rather than the full.

14 MEMBER DENARO: But if Shared Use and
15 Public Transportation are meeting together, that
16 is great because now you can cover both topics with
17 all the people who are interested in that.

18 CHAIR WILKERSON: Okay, so can you make
19 a formal recommendation for how you want to split
20 the time up because I am a little lost?

21 MEMBER WEBB: Well I was just going to
22 say whatever your first time frame, 10:15 to 11:00
23 have both Data and Funding going on at the same

1 time.

2 MEMBER DENARO: Right.

3 MEMBER WEBB: So, in different groups.
4 And then at that point, we would just go into
5 combining Public Transportation and Shared Use for
6 the next session.

7 CHAIR WILKERSON: Okay. All right and
8 then that would take us to about 12:00 and we could
9 move lunch and then do the Scenario Planning
10 afterwards.

11 MEMBER WEBB: Sure.

12 MEMBER DENARO: Can we move lunch up
13 ahead of time?

14 CHAIR WILKERSON: Okay, so we will
15 start now, we will start following our consensus
16 here. We will go to about 11:00 for Data and
17 Funding. Then from there, we will go for Public
18 Transportation and Shared Use. And that will take
19 us, it will be about -- we have got 10:25 until about
20 11:15 and then we will go from 11:15 to noon.

21 MEMBER DENARO: Yes.

22 CHAIR WILKERSON: Okay. And then we
23 will have -- we can either go -- yes, I think we

1 should probably break for lunch by then.

2 MEMBER DENARO: And then after lunch,
3 we will do report backs. Is that correct?

4 CHAIR WILKERSON: We will do Shared --
5 Walt is going to talk to us during lunch from about
6 12:00 to 1:00.

7 MEMBER DENARO: Oh.

8 MR. GLASSCOCK: He should be here
9 anytime.

10 CHAIR WILKERSON: So then, we would
11 have lunch and then after lunch we would go into
12 the Scenario Planning, all the committees would be
13 back.

14 MEMBER DENARO: Is there a report out
15 from the committees?

16 CHAIR WILKERSON: Yes, we will do that
17 after the Scenario Planning.

18 MEMBER DENARO: Or do we want to flip
19 out, do report outs first and then Scenario
20 Planning?

21 MEMBER MCCORMICK: I mean you know
22 Scenario Planning you are really asking what are
23 the assumptions we should be questioning the

1 validity of.

2 CHAIR WILKERSON: Right. Okay? We
3 still have some time. We can flip that around. But
4 I think as long as we can get moving to have that
5 subcommittee dialogue, the better we --

6 MEMBER MCCORMICK: I do have one
7 question I would like to ask.

8 CHAIR WILKERSON: Okay.

9 MEMBER MCCORMICK: In February, they
10 came out with the solicitation to replace all
11 190,000 postal vehicles in the United States. I,
12 unfortunately, didn't have rounds of reading of
13 specifications until about three weeks ago but
14 there is no provision in there to do any form of
15 vehicle communications, to do any type of road
16 weather traffic information harvesting. I don't
17 mean that they should require that be in there but
18 there is no provision in the architecture so that
19 it could be added. These vehicles last 20 or 30
20 years.

21 My question to the committee is is that
22 something separate from the adjunct committee to
23 make a recommendation that be put in there? It

1 just seems foolish to me to be buying that many
2 vehicles that have the benefit, that cover rural
3 areas, as well as every urban and suburban area to
4 not have that capability. It could provide
5 200,000 vehicles with probe data over the course
6 of the next four years as a purchase study.

7 And not having it in there, I understand
8 why it might have been completely different
9 departments dealing with this but I think it is not
10 too late to ratify that.

11 MR. SPENCER: Jeffrey Spencer. Just
12 as a suggestion or maybe question. You are talking
13 about postal vehicles. What about as far as fleet
14 vehicles as a whole?

15 MEMBER MCCORMICK: Well, my point is
16 that there is a solicitation out currently to
17 replace at least the first 160,000, I believe,
18 which people are bidding on and that bid spec
19 doesn't have any implementation of anything that
20 we are talking about in this space, I mean the
21 provision to incorporate it even in a year or two
22 down the road so they could get funding for it.

23 MR. SPENCER: Just to reach out to

1 maybe other government vehicles. Because we have
2 that opportunity, it would be beneficial to maybe
3 place it as a general --

4 MEMBER MCCORMICK: Right, I mean we
5 could certainly add any other federal fleet
6 vehicles. But to me, there is a tremendous
7 opportunity sitting right in front of us that no
8 one is taking advantage of. Any thoughts? Kirk.

9 MEMBER STEUDLE: Yes, this is Kirk
10 Steudle. So, I think a general recommendation
11 somewhere in here, I don't know where it fits, that
12 says the Secretary should work with other
13 governmental agencies across the board on fleet
14 procurements to make sure it has the latest
15 technologies available. Otherwise, OMB will go
16 for the cheapest version possible with the rubber
17 floor mats and AM radios because they are cheaper.

18 MEMBER MCCORMICK: Well, given that we
19 won't have a rulemaking decision until later, it
20 is not a recommendation that they include it but
21 there ought to be a recommendation that there is
22 a provision to incorporate it at some future point.
23 That is simply my point.

1 MEMBER STEUDLE: That is postal
2 vehicles but when you think about all of the federal
3 vehicles that are in all states --

4 MEMBER MCCORMICK: There is over a
5 million.

6 MEMBER STEUDLE: That is how we are
7 going to get a bunch of them in Michigan. There
8 is a bunch of Michigan-owned vehicles that they are
9 going to equip and county vehicles and the rest.
10 You can do the same thing with every governmental
11 agency in the safety pilot. That is what we
12 targeted, government vehicles, buses, transports,
13 whatever.

14 MEMBER MCCORMICK: And see that then
15 would fit under the Funding Deployment. That
16 would be an actual deployment if he is replacing
17 a number of his state utility vehicles, then
18 funding for the incorporation of that technology
19 through --

20 MEMBER CAPP: It probably would be a
21 general recommendation to look for opportunities
22 to do that. Because those specifications don't
23 exist for them to go change the procurement process

1 tomorrow.

2 CHAIR WILKERSON: Right.

3 MEMBER CAPP: It is kind of parallel.
4 Like the general recommendation, but in the
5 meantime, give Ken Leonard a call and say hey, look
6 for opportunities to do that.

7 CHAIR WILKERSON: Okay.

8 MEMBER CAPP: But they can't go buy
9 integrated V2V systems. You can write it down in
10 big bold letters if you want, they can't buy it
11 tomorrow.

12 MEMBER MCCORMICK: Yes, I just wanted
13 to have a consideration for future incorporation.

14 MEMBER STEUDLE: I think that is a very
15 appropriate comment coming from this group to the
16 Secretary saying look, here is a blind spot that
17 you may be missing an opportunity to go look at,
18 without telling him do this, this, and this. Go
19 look at this. Here's an opportunity to go look at
20 it.

21 MEMBER MCCORMICK: Especially since we
22 are looking at a potential rulemaking that may
23 require it for everybody else. That will require

1 it for themselves.

2 CHAIR WILKERSON: All right, would you
3 like to take the lead on drafting that --

4 MEMBER MCCORMICK: I will draft that.

5 CHAIR WILKERSON: -- and then we can
6 discuss that further when we do the subcommittee
7 updates?

8 MEMBER MCCORMICK: Okay.

9 CHAIR WILKERSON: Steve.

10 MR. BAYLESS: I was just going to say
11 that a fleet is an excellent opportunity. One of
12 the things that NHTSA has commissioned ITS America
13 is do a market model looking at vehicle penetration
14 for DSRC trying to understand the dynamics of you
15 the network effect. Like you get early adopters
16 in there, then you have got folks that will follow
17 those adopters and then you get the majority down
18 the road. The study is, essentially, to try to
19 look at how fast that will actually occur. And
20 fleet is definitely an opportunity.

21 One thing that we don't understand is
22 -- and we understand how fleets roll out. We can
23 make some very simple -- we make some very

1 simplified assumptions for NHTSA. One thing we
2 don't understand is what the infrastructure
3 component contributes to that network of products
4 and to model that.

5 So, NHTSA is asking us to do this in the
6 context of being able to submit this when they do
7 a rulemaking to suggest this is how quickly we think
8 the system will appear. And here is the
9 contribution from the OEM. Here is the
10 contribution from market advices, here is the
11 contribution from V2I.

12 So, if we can help you with sort of --
13 we can sort of brief on some of these results at
14 some stage. NHTSA has asked us to essentially do
15 that. In other words, to just get eyes on this and
16 sort of dilate the assumptions before you publish
17 it.

18 CHAIR WILKERSON: Great. Thank you.
19 So, in the interest of time, I will go through the
20 basic priority list, what I have as everybody's
21 priorities.

22 We are going to do Funding and Data.
23 Correct? So for Funding I have Steve, possibly

1 Joe, Ginger, Debra, Peter -- Peter is under Data
2 -- Joe, Roger, Kirk, George, and myself or I am
3 going to be on Data.

4 So under Data I have Raj, John Capp,
5 Bob, Peter, Scott, and --

6 MEMBER DENARO: Is Raj -- are you in
7 Data?

8 CHAIR WILKERSON: He is under Funding.
9 He had a question mark on the Data.

10 And then under the next one would be --
11 what did we say -- Public Transportation and Shared
12 Use, I have the following. Steve would get to
13 pick; Roger would be in Shared Use; Joe in Public
14 Transportation; John in Public Transportation; Bob
15 had expressed an interest in Public
16 Transportation, question mark for shared use;
17 Ginger for Shared Use; Debra for Public
18 Transportation. Peter, you had a question mark.
19 You get to pick. Scott for Public Transportation;
20 Joe for Shared Use; Raj for Shared Use; Susan for
21 Shared Use; Kirk expressed an interest in either
22 so, it is up to him; George for Public
23 Transportation and then I was in Shared Use.

1 So, that is how that breaks out and then
2 we will come back for Scenario Planning as a
3 whole.

4 **SUBCOMMITTEE MEETINGS**

5 So, maybe you can tell us where to go.

6 MR. GLASSCOCK: So, one group will stay
7 here. The other one will go all the way down the
8 hall past the restrooms and there is a lounge area.

9 CHAIR WILKERSON: So, why don't we have
10 Funding here and Data in the other room? And then
11 the next time, at 11:15 we will switch and we will
12 have public transportation here and shared use in
13 the other room.

14 Okay, so we will swap at 11:15. Okay,
15 we will change the schedule so it is updated, in
16 case you need to pop in.

17 (Whereupon, the above-entitled matter
18 went off the record at 10:33 a.m. and resumed at
19 12:04 p.m.)

20 CHAIR WILKERSON: Glad you could be
21 here.

22 **ITS JPO UPDATE/LUNCH**

23 MR. FEHR: Well, I was glad for this

1 opportunity to be here. It is always interesting
2 to engage with this particular group. It gives me
3 a chance to hear some of this stuff firsthand,
4 rather than wait for it to filter through whatever
5 kind of reporting process that you normally go.
6 And it also gives me a chance to sometimes validate
7 some of the things that are already underway. You
8 know if I hear some of the same things coming out
9 of this group that we are already contemplating
10 doing, that helps us to make sure that we are at
11 least sort of a little bit on the right track. Are
12 there more people coming in?

13 MR. GLASSCOCK: No, go ahead.

14 MR. FEHR: Okay. So, I have a couple
15 of topics and this is going to be very informal,
16 very back and forth, that hopefully you will get
17 a chance to interact with me on these particular
18 topics and maybe it will help spur some of the
19 discussions that happen later in the session.

20 Sheryl had asked that we mention
21 something about security. You probably all have
22 seen some things in the press these past few weeks
23 and there seems to be more and more every day

1 related to somebody doing something inappropriate
2 with the communications-based capabilities of an
3 automobile. So, I was going to touch on a little
4 bit of the more proactive aspect of that topic that
5 we are working on. Our friends at National Highway
6 Traffic Safety Administration are the ones with the
7 fire hose and the crash recovery kind of activities
8 on the stuff that is out there on the road already
9 but we are trying to approach what we are doing
10 going forward from a more proactive, positive kind
11 of a way.

12 Another thing I was going to touch on
13 here is some of the things that we are putting in
14 place in order to bring uniformity to this next
15 round of deployment trials. We are kind of using
16 this as a watershed event to try to push people from
17 the way things had always been done in the past to
18 a different way of doing things that we think is
19 much more representative of how you would hope to
20 do things in a real deployment. And a lot of it
21 centers around uniformity. So, that is one of the
22 things I can touch on.

23 And then the last thing is something

1 that is relatively new on our radar screen but we
2 think is going to be extremely important to
3 achieving those first two bullets and that is
4 providing an adequate support system for all of the
5 people that we are planning to have participate in
6 these kind of activities.

7 So, before I launch into all of that
8 stuff, I have to tell everybody that I am probably
9 the latest poster person for the benefits of this
10 communication-based, crash-avoided stuff that we
11 are all trying to get out on the street.
12 Yesterday, on my way home from the Park and Ride
13 lot, somebody ran into the back of my car at a
14 traffic light. My car was transmitting basic
15 safety messages but apparently, their car wasn't
16 equipped with the kind of machinery that would have
17 helped this driver realize that there was a stopped
18 vehicle in front of her before she hit me. So,
19 maybe five years from now, less of those kinds of
20 things will happen. But right now, they are
21 literally a real pain in the ass. Now, I have got
22 a car I have to have fixed and all that other kind
23 of stuff.

1 So, anyway, this kind of doubles the
2 incentive to actually try to get this stuff out
3 because the more that actually experience this
4 stuff firsthand and the more people that realize
5 what it could have done to maybe prevent that, the
6 more likely we will get people enthusiastic about
7 doing it.

8 Okay, the security concept going
9 forward. One of the things that we realize is that
10 if we are ever able to get any kind of a handle on
11 this particular topic, we have to improve the state
12 of the practice in this area.

13 In kind of the before case, system
14 integrity and preserving the integrity of the
15 things based on the possibility of someone coming
16 in an altering the behavior of a vehicle is just
17 completely unheard of. Nobody even really thought
18 about it.

19 I come from the industry where we built
20 electronic control components for automotive
21 applications. I spent 25 years in that industry.
22 There are -- at one time, there were probably
23 several million vehicles out on the road that had

1 parts that I was involved with either in design,
2 putting into production, whatever. And that was
3 something that nobody even thought about. It
4 wasn't a design requirement. It wasn't even
5 anything in anybody's thought process.

6 So, nobody anticipated that anybody
7 would want to exploit that system and do something
8 inappropriate. Nobody even thought about it.
9 So, there are millions of body-on-frame Ford cars
10 and General Motors light trucks with parts that I
11 was personally responsible for or directly
12 involved with that are vulnerable out there. I
13 know it. I could tell anybody how to do something
14 bad with those vehicles. And that is the same
15 thing with every other vehicle out there on the road
16 today. Anything that has been built since the
17 middle 1990s has got some kind of electronic
18 controls in it. Since 1996, it is quite likely
19 there are serial bus communications connecting
20 those controls and, particularly since 1996, there
21 is a very vulnerable point inside of the cabin of
22 those vehicles, the diagnostic connector.

23 Two hundred fifty million vehicles out

1 on the road, every one of them is vulnerable in some
2 way or another. These things that you have seen
3 in the popular press, they are just lucky examples.
4 Everybody has to keep in the back of their mind that
5 this whole issue is pervasive. Anything that has
6 communication technology in it, anything that has
7 got microcontrol-based stuff in it, is vulnerable.
8 Now we know.

9 Okay, so what are we going to do about
10 it going forward? One of the things that we have
11 been considering since the beginning of putting
12 together this reference architecture that we are
13 going to be using as a pattern in all of our
14 deployment projects going forward and as part of
15 what we are recommending or advocating for these
16 deployments out there, is that security is taken
17 into account from the beginning. It is one of the
18 design requirements. It is no longer something
19 that is layered on in the afterthought. It is part
20 of the up-front thinking process.

21 So, as people describe the systems that
22 they are going to be building, one of the things
23 that they are actually going to be describing are

1 the security, the communication and physical
2 security practices that they are putting in place
3 up-front, before they ever put a line of detail on
4 a drawing or they actually build a particular part,
5 or write a line of code, they are going to have to
6 have some kind of a concept for how they are going
7 to do something to improve the protection and the
8 integrity of the system.

9 Some of the things that we are doing
10 with this architecture and the tools that we are
11 creating to help people define and describe what
12 they are doing is making people much more aware of
13 the appropriate compartmentalization of an overall
14 system. These things are collections of
15 components. Everybody needs to understand that
16 clearly the boundaries of the components, where
17 those boundaries are pierced with communications
18 capabilities, and then what kind of practice are
19 you putting in place in order to preserve the
20 integrity of those communications.

21 So, if people at least understand the
22 boundaries of what they are working on, understand
23 where there are vulnerabilities within that

1 boundary and then when two things are connected,
2 what kind of vulnerabilities there are between
3 them, maybe they will make better decisions about
4 how to do stuff with them.

5 So, you are going to find more and more
6 and more very strict guidelines for how you protect
7 the boundary of one of these communication-based
8 devices that you are working with. And then if you
9 do choose some kind of a communication mechanism,
10 how do you assure trust in that communication and
11 how do you protect the confidentiality of sensitive
12 information that may be conveyed through that.
13 That is all going to be part of the up-front design
14 process.

15 So, that is one of the things that we
16 are doing going forward. Hopefully, that kind of
17 attention to detail and level of discipline and
18 design will help reduce the number of those kinds
19 of things that we see in the press. But as long
20 as anybody is doing something out there, somebody
21 is going to figure out a way to mess with it. That
22 is just human nature and what everybody has to
23 realize. The thing you can do is make it as

1 difficult as possible so it is less likely to
2 happen, takes much more resources in order to
3 accomplish it, all those kinds of barriers. You
4 know it is just bigger and better locks is the only
5 realistic way of dealing with something like this.

6 Are there any questions anybody would
7 like to put on the table around that particular
8 topic? It is doing to be something that is very
9 much scrutinized in any of these pilot projects
10 that we have going forward. Nobody is going to be
11 able to get away with sloppy practices. Somebody
12 is going to be checking this aspect of it and
13 helping people tighten up, wherever there might be
14 weaknesses in any of these things.

15 MEMBER DENARO: Just a comment that the
16 infamous Jeep incident happened during our
17 Automated Vehicle Symposium in Ann Arbor a few
18 weeks ago, a couple of weeks ago. And we had a
19 whole breakout -- we had 17 breakout sessions and
20 one of the breakout sessions was on cybersecurity.
21 And I made a point at that meeting that there are
22 two consequences of that event. One is the fact
23 that it happened, and now I'm quite certain there

1 is a massive recall and has to fix the problem and
2 now others have been implied to have the same
3 problems and so forth.

4 But the other very important aspect I
5 think has to do with all this ITS technology,
6 Connected Vehicles, automation, is the intensity
7 of the public press reaction to that and diving into
8 that and diving into that and, therefore, the
9 immense crisis management task that that company
10 had when this occurred. And the more technology
11 we get into in vehicles, the more this is going to
12 become a popular thing to grab onto and publicize
13 and is, frankly, back to your original comment,
14 about you not getting rear-ended and the rest of
15 us, these are the things that can delay, massively,
16 things happening.

17 So, it is really important to, first of
18 all, acknowledge that it is not just a technology
19 problem or safety problem. It is a public
20 perception problem and very important to get on top
21 of it or it is going to take a long time for the
22 technology to get there.

23 MEMBER MCCORMICK: Yes, there was a

1 solicitation for an RFI a couple months ago about
2 people wanting, allowing input on how the public
3 -- the infrastructure would be managed. I didn't
4 hear any results from any of that. I could have
5 missed it. It was how the certifying entity would
6 actually be managed.

7 MR. FEHR: Oh, not the certifying
8 entity, the cryptographic entity, the public key
9 infrastructure.

10 MEMBER MCCORMICK: Yes, did anything
11 come out of that solicitation of significance?

12 MR. FEHR: I don't know, to be honest
13 with you.

14 MEMBER MCCORMICK: Okay, I didn't see
15 anything. I just wondered.

16 MR. FEHR: I don't think anything has
17 been published yet.

18 MEMBER MCCORMICK: Okay.

19 MR. FEHR: That would come out National
20 Highway Traffic Safety Administration, if it were
21 to be published. I don't know, to be honest with
22 you, if we learned anything we didn't already know
23 from that.

1 MEMBER MCCORMICK: I didn't think it
2 would. I was just curious did anything new came
3 out.

4 MR. FEHR: Any other? Sir.

5 MEMBER KISSINGER: Peter Kissinger.
6 Is the current generation of Connected Vehicles
7 that are out there on these demonstration sides or
8 whatever, can you characterize their level of
9 security? Is it better than the average car that
10 is out there right now or is it worse?

11 MR. FEHR: I characterize it as Swiss
12 cheese but don't tell anybody outside of this room.

13 Again, what we have got to do is improve
14 the state of the practice. You know in that old
15 research environment that we were working in, as
16 we add people and independently analyze some of the
17 stuff that was brought into the Safety Pilot: Model
18 Deployment, you find things. Like people are
19 building stuff off of -- based on Linux boxes that
20 got four-year-old distributions with
21 well-documented, well-known vulnerabilities.
22 And it took a skilled party about a half an hour
23 to go from roadside equipment to right into the

1 enterprise business IT infrastructure of one of the
2 subcontractors that was contributing to that
3 project. And within a half an hour, they had
4 administrative passwords to email systems and file
5 storage things, and everything else, just because
6 they just took the textbook step, by step, by step
7 walkthrough exploit this vulnerability, which gets
8 you to the next vulnerability, which gets you to
9 the next vulnerability, which gets you to the next
10 vulnerability, jumped all sorts of boundaries that
11 nobody even knew were there. And that is the kind
12 of stuff that we can't really have going forward.

13 So, again, what is out there in these
14 pilots projects, virtually every one of them out
15 there probably is not a good example. Because I
16 don't know if anybody is actually -- and mine own
17 included. I'm over there with Kirk because that
18 stuff is in his stage. And I wouldn't trust any
19 of the stuff that I put out there any farther than
20 I can throw it.

21 MEMBER MCCORMICK: So, that brings up
22 an interesting question.

23 MR. FEHR: Pardon?

1 MEMBER MCCORMICK: Go ahead.

2 MR. FEHR: Body-on-frame Fords was one
3 I had the most involvement in. I actually got in
4 a taxi a couple of weeks ago to go to the airport
5 and damned if it wasn't a 2003 Lincoln Town Car.
6 The stupid thing had my parts in it. It had 100,000
7 mile design life and the odometer in that car was
8 getting close to 300,000.

9 MEMBER MCCORMICK: So, it makes it an
10 interesting question. Just yesterday they had
11 five different physical attacks on the Northern
12 California internet infrastructure, they kept
13 getting in the manholes and cutting the lines.
14 When you look at the stuff that is going to be
15 resonant in the roadside partnership, in the NEMA
16 enclosures that are on the side of the road, those
17 happen a lock but, obviously, they can be
18 penetrated well.

19 And so the question is, has anyone
20 looked at how secure, if somebody were able to open
21 that gate and tap those lines, how secure that was?

22 MR. FEHR: I have no idea. I was out
23 touring the facilities of a well-known toll highway

1 authority one time and looking at some of their
2 stuff and I wouldn't even have to break a lock. All
3 I needed was a 7/16th-inch socket wrench and I would
4 have had access to their communication backbone in
5 very isolated locations. It is just not part of
6 people's awareness right now.

7 MEMBER MCCORMICK: Well, I remember
8 when Kirk asked us to put in the wireless frame
9 gauges and communicate with vehicles on the
10 Mackinac Bridge and then Greg came and sat down.
11 He said now, you have to camouflage any of the
12 equipment you put out there. I said why? He said
13 people will stop on the bridge and pull off shiny
14 things. I'm like, seriously, they stop in the
15 middle of the Mackinac Bridge? He goes, oh, yes.

16 MEMBER STEUDLE: Just before they
17 jump.

18 MEMBER MCCORMICK: Just before they
19 jump, yes or go back to the cabin.

20 MR. FEHR: So, anyway, again, part of
21 what we are trying to do with this pilots project
22 is use it as a teaching opportunity. It sounds
23 kind of trite but that is exactly what we are going

1 to try to do because we know that in a lot of cases,
2 the state of the practice needs to be elevated.
3 So, the only way we can hope to do that is by
4 educating people so that they make the right
5 decisions.

6 People who did all of this stuff in the
7 past, myself included, didn't do it for malicious
8 reasons. We did it because we just didn't know any
9 better. And now we need to get people to the point
10 where they do know better. And that stuff that we
11 saw at Safety Pilot: Model Deployment was done
12 because done because people just didn't simply know
13 what they were doing in a lot of cases. And they
14 made decisions but they weren't well-informed
15 decisions.

16 So, that kind of leads into the third
17 topic that I was going to talk about here. But
18 before I get to that, the second thing I wanted to
19 try to bring out here is a significant effort that
20 we are going to try to put in place during these
21 next round of pilots to actually get some kind of
22 uniformity to the implementations. You know in
23 Kirk's backyard there, in Michigan, there are

1 probably a half a dozen or more installations right
2 now and no two of them are alike. No two of them
3 are interoperable. All of that kind of stuff was
4 done because people just hung stuff up and used it
5 for their purpose and didn't really think about
6 what the next step was.

7 So, we don't have any huge grand
8 ambitions in this next round of pilots but we have
9 a few modest ambitions for uniformity. And we are
10 going to try to build this up step-by-step, from
11 the bottom, and get these to the point where at
12 least certain very fundamental things are done
13 uniformly in any one of these installations that
14 are part of our pilots or other people are doing
15 contemporaneously so that whatever they are doing
16 can participate in the pilots activities.

17 And it is as simple as coming up with
18 decisions for this continent-wide deployment of
19 stuff that we are working on that are of the same
20 order magnitude that everybody drives on the
21 right-hand side of the road. All of the stripes
22 down the middle of a roadway are yellow. All stop
23 signs are red octagons. We are at that kind of

1 basic fundamental level of interoperability. And
2 so we are going to try to get those kinds of things
3 in place now so that we get people moving toward
4 that notion of doing things uniformly as part of
5 these deployments.

6 The first two things, and I will
7 consider this to be a measure of success of these
8 pilots is if by the end of the pilot's period, we
9 have everybody understanding time uniformly and
10 how to describe a location uniformly.

11 If you think about it, it took those
12 poor people from the National Transportation
13 Safety Board over three days to figure out if that
14 train operator in Philadelphia was talking on his
15 cell phone when he went off the rails or not because
16 all of the evidence they had, all of the log files
17 and records and whatnot related to those telephone
18 usage used different units of time. And it took
19 them that long to reconcile all of the differences
20 in that understanding of time to figure out whether
21 the phone was turned on or not when that thing went
22 off the rails.

23 That tells you something right now that

1 something that fundamental, that universal
2 understanding of what time it is needs to be
3 pervasive in a system like this.

4 The next thing that needs to be
5 pervasive in a system like this is the
6 understanding of a report of a location. Location
7 is so critical to everything that we do in
8 transportation, its location and time derivatives
9 of the location that are every useful piece of data
10 out there. So, coming up with a common
11 understanding of how to report a location and what
12 does the report mean. What is the precision, the
13 accuracy, the performance requirements of those
14 kinds of reports?

15 So, if by the end of the pilots we at
16 least have established a well-understood notion of
17 what time it is, as dumb as that sounds, that is
18 something that has got to be part of this and how
19 to report a location, we will consider these pilots
20 a success. Anything above and beyond that is just
21 icing on the cake.

22 So, above and beyond that, we are going
23 to start work with some of these uniform,

1 universal, ubiquitous data units that are part of
2 a system like this. And this is another one of
3 these things that takes people a long time to have
4 that aha moment. But transportation, in its
5 history, has been extremely good at distributing
6 trillions and trillions of extremely uniform data
7 units continent-wide that are available for
8 everyone. Any competent practitioner can provide
9 them. Everybody has seen a red octagon stop sign,
10 knows exactly what it means. You can go all the
11 way from Quebec, where it may have a different word
12 in the middle of it, to Guadalajara, where it may
13 have a different word in the middle of it. But
14 everybody instantly recognizes that data unit and
15 can instantly make use of it as they are going about
16 their transportation activity. That is the kind
17 of uniformity we have to have at these fundamental
18 units continent-wide.

19 How many of you paid your subscription
20 to the Traffic Signal System this month? Did that
21 stop sign out there only work if you were driving
22 a Lexus? That is the kind of uniformity and
23 ubiquity that we need to have at a fundamental level

1 of these communication-based technologies, if we
2 ever hope to have any kind of useful outcome from
3 it.

4 So, that is another one of the things.
5 Once we get past time and location, we are going
6 to work on red octagon stop signs and traffic lights
7 and a few of those other fundamentals. And again,
8 if we get those in place at the end of this pilot's
9 period, I will consider it a major accomplishment
10 because right now that doesn't exist out there.
11 There is no understanding of which side of the road
12 we drive on. You have got to buy a particular brand
13 of equipment to use this one particular feature
14 that should be universally available, that kind of
15 stuff. We have got to get past that. So, that is
16 going to be another one of the subtexts of a lot
17 of these pilots that we are working on.

18 Does anybody have any questions about
19 that? It seems pretty straightforward to me but
20 you would be surprised at how difficult of a concept
21 that is.

22 MEMBER ALBERT: Walt, this is a stupid
23 question but isn't there other industries or other

1 agencies who have been through something like this,
2 like an FAA? That is probably the wrong example.

3 MR. FEHR: Well actually,
4 transportation is probably the industry
5 segment/government agency segment that has had the
6 most experience with this.

7 If you kind of turn around and look
8 behind us, because of the vast nature of
9 transportation and the amorphous organization of
10 transportation and the importance of that to all
11 civilized human activity, we, in transportation,
12 have probably had the most experience of figuring
13 out how to do that.

14 If you look behind the covers of things
15 like phone systems and computing systems and other
16 things like that, you are going to find a real rat's
17 nest. It is not as clearly, as simplistically, and
18 as ubiquitously deployed as something like a red
19 octagon stop sign. So, what we are hoping to do
20 is actually help teach the rest of internet of
21 things world out there how to actually accomplish
22 this. Because there is a certain level of these
23 kind of activities that need to be as pervasive as

1 some of the things that we do every day in
2 transportation. We figured out how to get that red
3 octagon stop sign from all the way up in the
4 farthest northeast in Canada all the way down to
5 the lowest southwest in Mexico uniformly deployed.
6 There is tens of thousands, if not hundreds of
7 thousands of people out there putting those things
8 up.

9 And they are out there. We figured out
10 how to do it. The organization, the practices, the
11 policies, the incentives, all of that kind of
12 stuff, we figured out how to do in transportation.
13 We just need to figure out how to translate that
14 very basic, very important skill set to this new
15 computing and communication and intensive
16 technology. I think the cell phone company is
17 going to teach us how to do that. They are going
18 to figure out how to take more money out of our
19 wallet and that is as far as they go. We, in
20 transportation, actually know how to do that. We
21 need to teach the rest of them people how to do it.

22 Any other questions on that particular
23 point?

1 So, this is going to be the fun one for
2 me. Again, if at the end of the pilots I could have
3 everybody telling time in the same units, I will
4 be pleased. If I can get everybody to report
5 locations with the same level of integrity and
6 precision and usefulness, I will be pleased.
7 Everything else, like I said, is icing on the cake.

8 How do we get there? Because one of the
9 things that we have to understand and we have to
10 be prepared to do and everybody needs to make sure
11 that organizations such as my office and the rest
12 of the resources that are brought to bear here are
13 actually properly put in place to help people do
14 this.

15 This is a lesson from those of us that
16 have come from the electronics/technology area
17 learned over and over again that if you want to be
18 successful with a new evolution of technology, you
19 have to teach your customers how to use it. Nobody
20 is going to buy that stuff. Nobody is going to use
21 that stuff if they don't know how.

22 So, you can tell very clearly. I came
23 into the electronics world about the same time

1 microcontrollers were invented, back in the late
2 1970s. There was dozens of companies building
3 microcontrollers. You can tell the ones that were
4 successful from the one that fell by the wayside
5 simply because of the level of support they
6 provided. It wasn't necessarily the elegance of
7 their designs or the abilities of the devices, it
8 was the companies that had the cadres of people out
9 there and the support materials out there to teach
10 the customers how to use them that succeeded. Look
11 at that company that has got their logo probably
12 on the laptop that you are typing away at right now.
13 They were masters at doing that. That is why their
14 logo is on every laptop in this room. They knew
15 how to do it. They taught their customers how to
16 use this crap because it wasn't going to fly off
17 the shelf by itself if nobody knew how to do it.

18 So, we are trying to borrow a few things
19 from that kind of a mindset and bring them into this
20 area. Those of you that are closer to
21 transportation practitioners know that very well.
22 You know bridges, and asphalt, and concrete, they
23 understand. They know how to do that. They know

1 how to put up those red octagon stop signs. But
2 they are going to need a lot of help putting this
3 communication-intensive stuff out there.

4 So, we are trying to figure out in our
5 office and elsewhere within the Department of
6 Transportation and then even outside of the
7 Department, how do we start to marshal those
8 resources and get them active and engaged and
9 ready?

10 One of the things I am personally doing
11 here is creating a tight-knit support organization
12 for our pilots projects. You now for years and
13 years, I ran the Test Beds. And one of the biggest
14 things I found that people didn't really want a
15 place to do something, they wanted help putting
16 their project together. So, all of those people
17 that I trained up running those Test Beds are now
18 part of the support staff I have available to help
19 people build up their project. So, it is a
20 complete shift on my part going away from operating
21 a physical site to providing somebody that can
22 answer a question.

23 We are also developing a lot of the

1 support materials. Those of you who have been
2 following along with our affiliated Test Beds
3 Project, one of the biggest things to spin out of
4 that is a publicly accessible place where people
5 can get design information. That is one of the
6 things that we, as a government entity don't do very
7 well is engage actively with people who are
8 interested in a technology topic that we are
9 working with. So, one of the things that we have
10 been experimenting with as part of that
11 organization is how do we actually share stuff with
12 people on the outside. You know the classic
13 pattern was that we would do a research project,
14 we would hire a contractor. They would do it over
15 the period of two years and then maybe a year later,
16 after it had gone through some kind of an approval
17 process, a report would be published. By then, it
18 is stale.

19 If you weren't that contractor, you
20 didn't get the benefit of all of that active back
21 and forth that goes on during the buildout and
22 operation of a research project like that. So, we
23 have been experimenting with how to do that much

1 more actively. How do you actually let people
2 watch what you are doing? So, we have developed
3 that share site. I just gave access to the 201st
4 person to that share site yesterday. So, there is
5 a lot of people who are kind of poking around out
6 there, digging through the material that we are
7 accumulating, as we put together our reference
8 implementation of our architecture. And
9 hopefully, those people are going to be the ones
10 that are a little bit higher up the learning curve,
11 if they are involved in one of these pilots projects
12 or a little bit higher up the learning curve, if
13 they are going to put together a project on their
14 own.

15 And so that is another one of the things
16 that we are going to try to fold in. How do we take
17 some of those ideas that we have been working on,
18 maybe make them part of our own internal
19 infrastructure as a resource, start to build out
20 that kind of capability for delivering support
21 within the Department of Transportation, and then
22 also we have been engaging with some people to help
23 us try to figure out how to do this for all of the

1 people who need to contribute to this but are
2 outside of the traditional transportation
3 boundaries. And that is another one of the things
4 that we have been doing kind of behind the scenes
5 here over the last year is engaging with some people
6 who have created developer communities in other
7 contexts.

8 We found some people who have been
9 reasonably successful with doing that and they are
10 giving us a guidance on how to create a developer
11 community, the kind of people who have the data
12 analytic skills or the data movement skills and all
13 the rest of that kind of stuff don't even know how
14 to spell DOT. They have never dealt with us
15 before. So, how do we create an organization to
16 provide support for them?

17 And then kind of going forward, how do
18 we create, bring all these ragtag collection of
19 things together in a much more uniform presence so
20 people understand where to get the resources they
21 need, whether they are inside of transportation,
22 outside of transportation, but want to be part of
23 this? How do they actually figure out how to

1 connect up to it and use it?

2 Just as a side comment, this chart that
3 you see on the back with this stuff kind of overlaid
4 on it, is a planning tool that we are experimenting
5 with in our office. We are trying to come up with
6 a uniform kind of time frame and how do we map out
7 all of the different aspects of the work that we
8 are doing within this kind of uniform time frame
9 so that we can much better coordinate all of these
10 things that we are doing.

11 Before everybody did their independent
12 track within the research topics and they have
13 their own time scale. In their mind, they knew
14 when they needed to achieve results and nobody
15 really looked at it from an overall perspective.
16 So, one of the things that we are fiddling with
17 right now is what kind of a common kind of scale
18 to put these things on so that we achieve realistic
19 goals in a realistic time frame. We know that we
20 are sitting here at 2015 right now. Ten years from
21 now, we should have a significant portion of this
22 deployment in place. Twenty years from now, it
23 should be running at a significantly high level,

1 achieving the benefits that we are all hoping for.

2 So, that is the kind of uniform time
3 scale that we are starting to try to put things in
4 place here.

5 So I know, as far as support services,
6 I need something right now that can help with these
7 pilots that we are trying to get out of the gate.
8 That has got to be there right at the beginning.
9 So, I need to have something in 2015.

10 I know that by about 2017 to 2018, I need
11 to get this institutionalized inside of Federal
12 Highway Administration or wherever in the
13 Department, so that it will have the kind of
14 institutional support it is going to need to be
15 there in the long-term. By 2025, that has to be
16 really operational because you are going to have
17 this big buildout of this stuff going on. So, I
18 need to have that completely staffed up and
19 completely operating by about 2025.

20 And then by 2035, that has to be
21 well-integrated into this overall support network
22 that is out there for all of the people, not just
23 the people who are the direct clientele of the

1 Federal Highway Administration or whomever within
2 the Department but everybody that is contributing
3 to this.

4 So, all of those people out on the West
5 Coast that never heard of the Department of
6 Transportation before but are going to be the
7 important data analytics people or whatever, they
8 need to know that we have this one uniform place
9 for engaging with developers. So, that is another
10 one of the things that I am working on there.

11 Are there any questions about this
12 particular topic? We know without support, the
13 whole thing will never get off of the ground because
14 you have thousands of people out there going off
15 in all sorts of different directions and somebody
16 has got to help herd them up and get them moving
17 in the right way. This stuff is not going to put
18 itself in the ground. It is going to have a lot
19 of hand holding that is going to be needed.

20 MEMBER STEUDLE: Walt, I think you
21 bring up a great point because there is a lot of
22 people that are trying to put their own stakes in
23 the ground and my fear is that there is a lot of

1 Betamaxes being put in the ground that people are
2 going to have a lot of egg on their faces on why
3 did you do that.

4 I know we have been trying to stay very
5 closely connected with this so that we are not one
6 that is putting Betamaxes in the ground.

7 CHAIR WILKERSON: That was I just said.
8 I was like but it was superior in many ways.

9 MR. FEHR: So anyway, we know that for
10 everybody around the table here and all of the
11 constituencies they represent to be successful,
12 somebody has got to help them along. Nobody is
13 going to do this all on their own. It is just too
14 unrealistic to expect.

15 MEMBER KISSINGER: Well what is your
16 personal best estimate for implementation if you
17 look at five or ten years, even if it is off the
18 record?

19 MR. FEHR: Well I am sort of on and off
20 the record but my best estimate is up there on the
21 screen right now.

22 I expect, you know my crystal ball tells
23 me that if you kind of divide up all of these

1 benefits, safety, mobility, environment,
2 casualties, capacity, combustion, I would expect
3 maybe about at ten percent improvement in ten years
4 is a sort of realistic expectation.

5 Then 20 years, maybe those numbers that
6 you see up there are a realistic expectation. If
7 everybody gets their act together and gets in line
8 and gets stuff done. So, that is kind of what I
9 would predict.

10 MEMBER CAPP: Specifically, in terms
11 of DSRC implementation. That is what you are
12 referring to.

13 MR. FEHR: No, the architecture. The
14 SRC is one small piece of the complete
15 architecture.

16 MEMBER CAPP: That is why I was
17 wondering what assumptions you had in mind with
18 that. It's all the stuff you are talking about.

19 MR. FEHR: Yes, it has got to be the
20 complete system. It isn't one little piece of it.
21 It is the whole thing.

22 So, if ten years from now I am ten
23 percent less likely to be hit in the back end at

1 a traffic light, I will be happy.

2 So, does anybody know any good whiplash
3 lawyers out there that operate in this part of town?
4 I have a case for them.

5 MEMBER WEBB: Walt, and I understand
6 this from the federal aspect, but when we starts
7 dropping down, where -- are these same
8 expectations out there for the locals?

9 MR. FEHR: Well, again, if you look at
10 it from a continent-wide perspective, I would
11 expect the aggregate to look like this. There will
12 be places that are better, places that are not as
13 good, you know all that kind of granularity when
14 you get down to the local level.

15 MEMBER WEBB: We have heard comments as
16 far as statistics about how much of the country is
17 rural and whatever. So, the idea is all of this
18 will be covering geographically a certain
19 percentage or we going to say that this is going
20 to be for the more populous areas?

21 MR. FEHR: Okay, now you start to get
22 into the weaseling and waffling opportunity in
23 something like this.

1 MEMBER WEBB: Fair enough.

2 MR. FEHR: Because if you have this
3 overall continent-wide goal and you have got some
4 really easy wins in a particular area, it is kind
5 of like the game that car companies play with CAFE
6 standards. You know my big four-wheel drive SUV
7 is a real gas hog but if I sell a lot of little cars
8 along with it, I make my average number. So,
9 people can play games with this and the net effect
10 has to be looked at in aggregate. It is the only
11 way you will ever make sense out of it.

12 MEMBER MCCORMICK: My view from the
13 last 15 years of doing this is that we tend to think
14 linearly about how the future will unfold, when it
15 actually changes parabolically. You know to ask
16 us ten years ago if what are the insurers' part of
17 this, you got a shrug. What does the mobile
18 environment play in this, you get a deer in the
19 headlights.

20 When you talk about the rural areas, you
21 tend to find the limitation and the ability for
22 infrastructure. But if the cars have capability
23 and if the cars' capability evolves not just to DSRC

1 but Wi-Fi, cellular and satellite, there is a
2 number of different opportunities that I believe
3 we will see arise that will bring value. It may
4 just be commercial value but all of those things,
5 it is like anything that goes through adoptions,
6 as long as you have got -- once you have put a stake
7 in the ground and said here is where we are going
8 to go and what we are going to do, it will and it
9 has, in this case, taken on a life of its own, in
10 terms of these people start putting different sets
11 of thoughts on it.

12 Ten years ago, nobody asked the
13 question what happens in the rural. Five years
14 ago, nobody asked it. The first time I heard it
15 raised was basically in the 2012 first ITS PAC
16 meeting by you guys. So, you know my view is that
17 that is a great forecast but I guess that -- I
18 honestly believe that we are going to see, over
19 time, faster adoption and a broader adoption and
20 many more things come into play than we see right
21 now.

22 MR. SPENCER: I'm going to reflect a
23 little bit what Susan said earlier, this dynamic

1 about destruction is going to drive a lot of it.
2 And when it comes to change, you are either driving
3 change, reacting to change, or you are a victim of
4 change. All you have got to do is decide which
5 paradigm you fit.

6 MEMBER ALBERT: Walt, it would be nice,
7 being the rural guy in the room, it would be really
8 nice if you had one of your demos that wasn't just
9 interstate and that interstates are four times
10 safer than secondary roadways and really look
11 beyond the interstate onto the two-lane rural
12 highway. Some of it is demonstrations.

13 MR. FEHR: As a guy that grew up in corn
14 country in Illinois --

15 MEMBER ALBERT: You know.

16 MR. FEHR: -- that intersection at the
17 corner of our farm was the place where some really
18 deadly things happened.

19 MEMBER BERG: And you didn't have the
20 octagon that is red. Right?

21 CHAIR WILKERSON: What was that?

22 MEMBER BERG: And the intersection
23 didn't have the red octagon there.

1 MR. FEHR: Actually, growing up on the
2 farm, the first stop sign you would get to when you
3 got to the edge of this town that we live close to,
4 there is actually a yellow octagon. I can remember
5 that. It was yellow.

6 MEMBER BERG: That means to slow down.

7 MR. FEHR: So, it took transportation
8 40 years to get to the red octagon stop sign. We
9 have an opportunity to jump a lot further faster
10 with this, if we just pay attention to that.

11 MEMBER DENARO: We've all seen those
12 movies of a future automated intersection only cars
13 in intersections whether there is no traffic
14 signals or anything else. They are kind of leading
15 and so forth.

16 I, in the great NHTSA, at least had an
17 intersection near my home on the commute, that is
18 the way we did it. There were no stop signs, red
19 or yellow and we just kind of weaved through. The
20 problem was when there was some non-local person
21 there that screwed everything up because they
22 stopped.

23 MEMBER MCCORMICK: Or for the

1 non-vehicle road users. You may end up with more
2 types of signage and signals.

3 MEMBER CAPP: If you have been to
4 China, all the intersections are kind of like that.

5 MR. FEHR: Is that right?

6 MEMBER CAPP: It's amazing how most
7 people don't get killed. It's amazing.

8 MR. FEHR: Yes, or you just walk on the
9 platform of the metro station at rush hour and
10 nobody runs into each other but they are going every
11 which way. Well, unless it is people like you that
12 don't know how to use public transportation.

13 MEMBER DENARO: It's those people who
14 are doing distracted walking now.

15 MEMBER MCCORMICK: That is the other
16 interesting thing. I have seen a study recently,
17 it's not totally fleshed out, it was in process but
18 the advent of advanced technologies in vehicle like
19 adaptive lane-keeping and cruise control is
20 actually generating more distraction issues
21 because people were paying less attention to the
22 thing that has been offloaded to them now, where
23 they still needed to have attention.

1 MR. FEHR: I can remember when my
2 grandfather bought his 1963 Ford Galaxy 500 and my
3 grandmother refused to let him get a radio
4 installed in that thing because she didn't want him
5 fiddling around dialing the radio and getting into
6 an accident because he was distracted.

7 MEMBER MCCORMICK: Well, in the early
8 '30s when GM put the first rearview mirror in a car,
9 they had to take it out. It was legislated that
10 they had to take it out because that was the first
11 use of the term distracted driving because the
12 people were looking in the rearview mirror to see
13 what was coming up and not paying attention to what
14 was going on in front.

15 MEMBER DENARO: Walt, we were talking
16 in the Data Subcommittee, we were talking about all
17 kinds of policies and so forth with data that might
18 come from data pools and that sort of thing. And
19 you guys don't, I don't believe, get involved in
20 policy. But I guess it is just a general question.
21 Where are you in considering how much of this data
22 gets made available and how do you protect privacy
23 and things like that? Have you been giving that

1 some consideration?

2 MR. FEHR: Yes, we don't necessarily
3 write the policy but we have to put the things in
4 place that would give somebody the ability to
5 implement policy.

6 MEMBER DENARO: Okay.

7 MR. FEHR: And so those are very much
8 in the forefront of what we are thinking is how do
9 you put in provisions and designs that have the
10 ability to achieve the level of privacy that a
11 policy might dictate. Another one of the big
12 things that we know about is that it is not so much
13 the data but the recovering the value people add
14 to data as it moves along. So, we put in provisions
15 to actually help people accomplish that because we
16 know that if this data are ever to be moved, it has
17 to be treated much more like a real commodity
18 industry, where nobody owns a commodity. That
19 just doesn't make sense. People own the value they
20 add to that commodity as it moves along. And you
21 have to have the practices and provisions in place
22 in the design to actually accomplish the recovery
23 of that value.

1 So, if you look at our reference
2 implementation, the thing that is running there in
3 southeast Michigan, you will see the details of how
4 every unit of data can be accounted for, which is
5 the beginnings of giving people the ability to
6 recover that value.

7 So, we are very much interested in
8 making sure that design provisions are in place to
9 actually accomplish the policies that somebody put
10 in place. That is going to be one of the biggest,
11 the totals in these next round of deployments is
12 how do we actually preserve the privacy that people
13 are expecting with their crash avoidance
14 technology. Then the situation we are going to
15 have in place is the General Motors products that
16 have these basic safety messages going out that are
17 constantly changing their identity. In the very
18 same vehicle, it has got a fixed MAC address on
19 their freaking Wi-Fi gateway. It is probably
20 built on the same piece of silicon. And one
21 completely negates the privacy practices that were
22 put in place for the other. Sorry, General Motors.

23 But it is those kind of knucklehead

1 things that we are going to have to figure out how
2 to get through. How do we actually put the design
3 practices in place to preserve that privacy that
4 everybody expects or wants with their crash
5 avoidance technology? And that is going to be one
6 of the more interesting things that we have to work
7 through here in our pilots projects because the
8 knee jerk instant implementations that people are
9 thinking of right now are just going to throw that
10 privacy protection right out the window,
11 literally.

12 CHAIR WILKERSON: Well, thank you.
13 Any other comments before we go to Scenario
14 Planning?

15 Thank you, Walt, for that summary on
16 security concepts and the uniform implementation.

17 MR. FEHR: Okay. Well, I always
18 appreciate this opportunity to interact with this
19 particular group. It is always refreshing to get
20 out of that little hole in the ground where we
21 normally live and see what other people are
22 thinking in the outside. So, thank you.

1 **SCENARIO PLANNING DISCUSSION**

2 CHAIR WILKERSON: We hope you will stay
3 around. Thank you. Thank you so much. So, we
4 are on time. It is 12:59. At 1:00, we said we
5 would turn to Scenario Planning. I know there were
6 a couple -- I think, first of all Scott asked to
7 take a poll of everyone who is going to be around
8 to go to dinner. So, I don't know how many people
9 might be around. He wanted to make a reservation
10 if there were any folks around. How many?
11 Anybody? Okay.

12 I know when we had the Shared Use
13 discussion you had to be out of the room for an
14 important call but I didn't know if you wanted to
15 reiterate the concept for that, Susan. And then
16 I think there was one other that came up. The other
17 issue that came up was the fleet issue. And I think
18 that was it. Those are the only ones I have in my
19 notes, if anybody else has any thoughts.

20 MEMBER SHAHEEN: So in the context of
21 the discussion of Shared Mobility, it came out, I
22 think Jeffrey Spencer mentioned that Scenario
23 Planning might be a good tool to look at future

1 planning needs. So say with Shared Mobility and
2 possibly convergence with automated vehicle
3 technology.

4 MEMBER MCCORMICK: The fundamental
5 premise behind doing Scenario Planning is
6 essentially to question your objectives, question
7 what your underlying truths are that you are
8 holding in this place. An example would be what
9 the DSRC doesn't work. To look at the collateral
10 things that may occur. What if there is another
11 major recession or massive fuel prices, that
12 changes the deployment issue but what else could
13 possibly change?

14 To ask even real questions, I mean we
15 haven't actually ever physically tested how any
16 vehicle with DSRC in it behaves during an accident.
17 You know it could be that it sends out spurious
18 signals. It could be a lot of things.

19 And the purpose isn't so that you have
20 to actually plan for the implementation of what
21 your recovery programs would be but so that you have
22 an awareness of what the potential threats might
23 be if, in practice, something didn't make it to

1 execute on anything, turn out to be inaccurate or
2 opposite or, if conditions occur that
3 fundamentally may destroy one of those underlying
4 foundations for it.

5 So, and I think there has actually been
6 some work and the purpose, of course, isn't to do
7 that Scenario Planning. The purpose of what our
8 charter is is to decide whether or not to recommend
9 to the JPO whether it should consider doing
10 Scenario Planning, in what areas and to what end
11 result.

12 At our first discussion of this at the
13 last meeting, everybody was kind of like yes, it
14 is probably a good recommendation but we really
15 didn't have a meeting to decide any further than
16 that. And I guess I questioned whether we need,
17 I mean other than weighing in right now on it, my
18 fundamental statement would be that the ITS JPO
19 should undertake Scenario Planning on all of the
20 aspects of the deployment that, if rulemaking
21 occurs, in order to determine if there is areas of
22 -- in order to be made aware of opportunities, how
23 we would address those challenges. And then we can

1 give examples, we can acknowledge the ones I just
2 did.

3 CHAIR WILKERSON: Any comments?

4 MEMBER SHAHEEN: I think Scenario
5 Planning is a really worthwhile tool. And I think
6 it is something that JPO should consider doing on
7 an annual basis, create a scenario analysis and
8 then revisit it, which is what a lot of companies
9 do.

10 CHAIR WILKERSON: Is there one that we
11 want to specifically recommend for purposes of our
12 --

13 MEMBER SHAHEEN: The global business
14 network model I think is pretty interesting,
15 Sheryl.

16 MEMBER MCCORMICK: We are also working
17 on the assumption that we will solve the security
18 issue and we may not. We are making assumptions
19 about public key encryption, which may not prove
20 true.

21 So, the answer would be to say well what
22 if that doesn't approve, is there another mechanism
23 or methodology we would be prepared to investigate?

1 And we already know the answer to that because they
2 have looked at a variety of different ways of doing
3 encryption over the years. But it is like
4 anything. You have studied something five years
5 ago that is sitting on a book on a shelf in a
6 warehouse somewhere and the people that are
7 currently working on a program are not aware of it.
8 So, it is a horrible litmus test for making sure
9 where you are going is properly vetted.

10 CHAIR WILKERSON: Any other comments?
11 Did you want to add something to that?

12 MEMBER BERG: Is that not what
13 Strategic Plan is?

14 MEMBER MCCORMICK: No, interestingly,
15 it is not. Because if you read the details for
16 Strategic Planning it says here is what we are going
17 to pursue studying and doing. It doesn't have any
18 fallback plan when it discovers that what we are
19 studying isn't going to work.

20 MEMBER BERG: It is research. Most of
21 it won't --

22 MEMBER MCCORMICK: Right.

23 MEMBER BERG: So, that is the learning

1 that takes place, what is appropriate to move
2 forward on. What was a mistake?

3 MEMBER MCCORMICK: Right, but my point
4 is is that when Ken Leonard, when we briefed him
5 on -- when he was here at the last one, he said yes,
6 we don't do that and yes, we probably should.

7 So, my thought was that it is a viable
8 recommendation to tell them that they should do it,
9 not to do it for them.

10 MEMBER BERG: Right.

11 MEMBER MCCORMICK: Yes?

12 MR. SPENCER: Jeff Spencer. When you
13 talk about Scenario Planning, I had kind of one
14 thing in my mind and what you have given me is much
15 higher and I understand that level because both the
16 implications that it is giving. But my question
17 is, how do we get into more granular levels?
18 Because in my thinking when I was going through what
19 I thought was scenario, when I mentioned earlier
20 modeling and things like that, we bring that down
21 to some granularity as well. So, how do we build
22 the support that is A to Z, rather than just looking
23 at the pie.

1 MEMBER MCCORMICK: Well, typically
2 what happens is you execute on the different level
3 -- you know the depths of doing this analysis as
4 it becomes more relevant and appropriate to do it.

5 So, in my example that they haven't
6 crashed a car, they actually are in the process of
7 figuring out how to do that and what they would
8 test. Okay?

9 I just was at a meeting three weeks ago
10 with people that are producing one of the two
11 million dollar certification program tests. We
12 were reviewing what they were doing and we asked
13 the question well, are you testing these boxes and
14 creating your metrics for it based on a generic
15 antenna and they said well, yes. And I said well,
16 then if you have LIRA antenna, which might have
17 better capabilities or a stronger reception or
18 whatever, I says, do you need to validate the box
19 against a specific antenna because you can't
20 measure the box's performance without an antenna
21 and the likelihood that anyone is going to put in
22 a generic antenna, you know the simplest one that
23 AnLar or whoever provides is pretty unlikely. So,

1 they have added that now into this scenario that
2 says okay, yes we probably do need to test that and
3 just figure out a way to validate it.

4 So, sometimes the asking of questions
5 as are you doing this or doing that forces people
6 to say yes, that is probably what we need to do next
7 and that is when you expend the resources to do it.
8 But you certainly don't want to take the meager
9 budget that JPO does and have them redirect doing
10 something but they should be prepared to do that,
11 was kind of my point. And it should be part of
12 their operations, standard method of operations to
13 enact that when scenarios dictate.

14 MEMBER BERG: So, if they have a \$100
15 million budget, they will be doing Scenario
16 Planning, instead of actually executing on what
17 they said they were going to do.

18 MEMBER MCCORMICK: Well, if they take
19 it that way. My intent is to say be aware that you
20 need to do Scenario Planning, that you should be
21 prepared to do it when it is necessary to do so.

22 MEMBER BERG: When it is necessary to
23 do so I think is the operative phrase there.

1 MEMBER SHAHEEN: Yes, but once you
2 developed say a scenario -- I'm sorry.

3 CHAIR WILKERSON: No, that's okay, go
4 ahead.

5 MEMBER SHAHEEN: Well, once you
6 develop -- because I have been involved in this
7 process. Once you develop the base Scenario Plan,
8 that is where you put some investment, if you go
9 revisit it every year shouldn't be as challenging
10 to update it. I don't think it is a multi-million
11 dollar effort.

12 MEMBER KISSINGER: I mean is there a
13 baseline scenario, a best case scenario that takes
14 into account --

15 MEMBER MCCORMICK: The best case
16 scenario is what Walt laid out is what we are doing.
17 That is the best case.

18 MEMBER KISSINGER: Well how detailed
19 is that? That seems -- I couldn't tell if it was
20 very detailed from his presentation. But does it
21 take into account cars V2V, V2I?

22 MEMBER MCCORMICK: Yes.

23 MEMBER KISSINGER: And how detailed is

1 that?

2 MEMBER MCCORMICK: It came out -- well,
3 yes, it took \$54 million of government funds, ten
4 years of the VI Consortium. I don't know how many
5 years of camp, how many millions went into that camp
6 doing the more detailed safety essential work
7 between OEMs but everything from policy level to
8 developing the premise for the PKI infrastructure
9 was developed over that decade with the VII
10 Consortium, which had the bulk of the automakers
11 participating in it and I don't know how many
12 suppliers.

13 MEMBER KISSINGER: No, I guess I
14 understand all of that. But I mean in the real
15 world, we are having trouble funding the existing
16 physical infrastructure.

17 MEMBER MCCORMICK: Right.

18 MEMBER KISSINGER: So, I think there is
19 -- I mean an honest question on the table is will
20 we ever have the money to fund all of this new
21 infrastructure for some of this new technology? I
22 don't know, does the current assume oh, yes, that
23 is going to happen?

1 MEMBER MCCORMICK: Here is the
2 problem. We have never had the ability to
3 articulate the value proposition broadly enough
4 right now for either V2V or V2I. We can articulate
5 the safety benefit for it. But what that actual
6 value is, because it is kind of -- in all of the
7 analysis, like the analysis Volpi does, when you
8 read it it says okay, if half the accidents -- half
9 the patients in an emergency room on a weekend are
10 accidents; if you eliminate all accidents, you
11 eliminate this cost. But on the other hand, now
12 you get to lay off half the doctors, the nurses,
13 the ambulance drivers, and staff because it is an
14 inelastic commodity of people that do things.

15 MEMBER KISSINGER: And the chop shops.

16 MEMBER MCCORMICK: And the chop shops
17 and all the other --

18 MEMBER BERG: Is it DOT's
19 responsibility to do that?

20 MEMBER MCCORMICK: I'm sorry.

21 MEMBER BERG: Is that DOT's
22 responsibility to analyze all of that?

23 MEMBER MCCORMICK: No.

1 MEMBER BERG: Okay, so then what do we

2 --

3 MEMBER MCCORMICK: But his question
4 was -- I was trying to say that in the question is
5 that their objective was to do one thing. Quite
6 frankly, you know, whether or not Kirk is going to
7 put more wireless sensor straining gauges on other
8 bridges has to do with whether or not I have budget
9 for them and whether or not there is perceived value
10 for it. Do I just do it on the ones that I have
11 decay issues on or age issues on or whatever. So,
12 there is a whole other set of dimensions that go
13 into making a decision whether you are pursuing
14 technology. And then it is down to -- or pursuing
15 a solution. And then it comes down to okay, this
16 isn't the only way to get that information. And
17 so in that case, it is one of those well, okay, what
18 if I do it by using hardwire technology? Is that
19 cheaper? If I don't have to outfit vehicles to
20 drive over it, is my responsiveness faster?

21 So, there is a whole set of conditions
22 that determine whether or not a technology is
23 appropriate, even before you get to the question

1 of whether or not it is economically effective to
2 do it. And we don't have an economical
3 effectiveness answer for this. We have faith.

4 We believe that it is going to reduce
5 a lot of crashes and accidents. In the last ten
6 years, the number of deaths have gone from 43,000
7 to 35,000. You know because of things like ADAS,
8 because of things like traction control, because
9 of the technology that has been put into the
10 vehicles, because of awareness that public
11 entities have done with roadway and safety, and
12 signage and everything else. I don't know, is a
13 road sign worth the investment, Kirk? It depends
14 on where you put it and what you say on it.

15 MEMBER DENARO: So, the question I have
16 is, where are we going with this. What is it where
17 you were coming from? In one of my career stops,
18 I was training scenario option development and I
19 facilitated sessions on this. And I recently
20 redid this whole thing with the automated vehicle
21 symposium two years ago or something we did it.
22 And the whole point, I think this is kind of what
23 you were saying, Scott, is that the whole point of

1 scenario option development is to anticipate
2 futures that you wouldn't normally think about.
3 So, the scenario planning is not about oh, here is
4 a cool scenario. It is to force yourself to come
5 up with strange scenarios that you wouldn't
6 otherwise think of. But you know what? They may
7 happen.

8 So, the whole point there, the process
9 is coming up with critical uncertainties. And
10 then you kind of match these against each other.
11 So, for example, when we did this for automation,
12 critical assertions, I have got presentations on
13 me here, we considered vehicles might operate on
14 all roads or they might only be on dedicated roads.
15 The driver might be engaged or the driver's not even
16 in the loop. It might be urban. It might be
17 rural. It could be individual ownership or it
18 could really move to mostly fleets or automated
19 vehicles and so forth.

20 So, you come up with the uncertainties
21 and then when you cross them together, that is when
22 it gets interesting. Because if you have the
23 combination of it is operating on all roads and

1 maybe it is individual ownership or centralized
2 fleet, that gives you very robust defined
3 scenarios.

4 And the point of Scenario Planning, and
5 I think you were getting at this, Scott, is to come
6 up with the implications. What if this -- forget
7 about whether you believe it is real or not, if this
8 scenario should emerge, what are the, first of all,
9 early indicators that say wow, you seem to be going
10 to Quadrant 4? So, what are the early indicators?

11 And secondly, then what are you going
12 to do about it? So, that is the whole point of a
13 plan is if we end up in the scenario, I can't for
14 the life of me, understand why that would happen
15 but, if it were to happen, what would we do in that
16 case?

17 So, that is Scenario Panning as I know
18 it. My question, though, is, what are we going to
19 do? We are not going to do Scenario Planning in
20 this group, at least not today we're not. I don't
21 think we are going to do it. So, we are not going
22 to do it for the JPO. And if we are going to tell
23 them to do it, what is it -- are we going to help

1 them define critical uncertainties or what is it
2 we are really asking them to do?

3 MEMBER MCCORMICK: Let me put it in
4 more real terms.

5 MEMBER DENARO: Okay.

6 MEMBER MCCORMICK: Federal highway,
7 under Dr. Kunik Lee gave an award to Susan and
8 Virginia partners and, I believe, another entity
9 to work on their scenario planning for a number of
10 scenarios.

11 One of them was what happens in major
12 climate change. What happens if the power grid
13 goes completely down? And you know, on the
14 surface, it may be well if the power grid goes down,
15 I guess we are all walking or at least getting stuck
16 at not red lights.

17 But the reality is, is that a lot of
18 other things occur of which are important to
19 Federal Highway because once you understand here
20 is where this scenario is, if this scenario occurs,
21 they still have to move goods, and people, and
22 services. They still have to have -- if the grid
23 goes down, that affects, severely most of the West

1 Coast's major forms of transportation. Right?

2 So, the federal government does know
3 when to do that and they don't necessarily do it
4 but they contract with entities that do know how
5 to do it.

6 My only point was that in talking with
7 DOT, they didn't do it. JPO didn't do it. And
8 when I talked to Ken, I said don't you think that
9 would be of value to do that? He said, yes, we
10 probably should.

11 So, I said well, then, what I am going
12 to do is recommend that -- I haven't figured out
13 the wording of this yet but that we should recommend
14 the Joint Program Office be able to initiate a
15 Scenario Planning activity opportunistically as it
16 is needed and should do one now just to question
17 the underlying assumptions they have made before
18 rulemaking occurs.

19 MEMBER DENARO: So, are we going to
20 suggest the issues that they may need to address?

21 MEMBER MCCORMICK: No.

22 MEMBER DENARO: You guys might agree
23 going down.

1 MEMBER MCCORMICK: No, I don't think we
2 should suggest that. I think that there is a smart
3 enough bunch of people in JPO that they know what
4 their underlying assumptions are.

5 CHAIR WILKERSON: And I think when we
6 had the earlier discussions we weren't sure out of
7 all these issues whether there might be one that
8 would be more appropriate than the other. I think
9 that was -- we said it could apply to all of them
10 or none. Do we make none, no recommendations or
11 --

12 MEMBER MCCORMICK: And I am perfectly
13 happy if the Committee has no consensus that this
14 is a valuable recommendation and we can move on.

15 MR. SPENCER: Just a suggestion to
16 insert multimodal scenarios because if you just let
17 them go, they might come back pilot scenarios.

18 MEMBER DENARO: I mean we have talked
19 about a lot of critical uncertainties. We just had
20 a discussion before lunch about whether or not
21 Shared Use impacts the number of vehicles on the
22 road and hurts public transit, for example. I
23 didn't state that exactly right but those have been

1 -- and we all said who knows. I have seen studies
2 from both sides. That is a clear definition of an
3 uncertainty that would be addressed by Scenario
4 Planning, potentially. So, --

5 MEMBER MCCORMICK: Yes, I don't want to
6 solve world hunger, I just want to point out
7 somebody might be hungry here.

8 MEMBER DENARO: Yes. Yes, well, I am
9 still struggling for what -- are we simply going
10 to say gee, JPO, you have got to do Scenario
11 Planning?

12 MEMBER MCCORMICK: I would recommend
13 that they do Scenario Planning on the baseline
14 assumptions that they have made in order to advance
15 the rulemaking. They have made, fundamentally, a
16 number of them.

17 MEMBER DENARO: Okay.

18 MEMBER MCCORMICK: Okay. That takes
19 them a few hours to actually do that because there
20 is basically four or five fundamental assumptions
21 that they have made that we don't know if it is true
22 or not. We think it is true but we don't know if
23 it is true. And that they consider having the

1 structure and ability to implement Scenario
2 Planning going forward, if warranted.

3 MEMBER CAPP: That is fairly narrow.

4 CHAIR WILKERSON: Yes.

5 MEMBER MCCORMICK: Yes.

6 MEMBER CAPP: It's not multimodal.

7 It's not --

8 MEMBER MCCORMICK: Well, we can add
9 multimodal if you want.

10 (Simultaneous speaking.)

11 MEMBER MCCORMICK: Well, the JPO
12 doesn't --

13 MEMBER CAPP: Maybe the scenario is
14 what if that isn't the right approach in total?

15 MEMBER MCCORMICK: And what if it is
16 not the JPO? If it is multimodal, it is not
17 necessarily the JPO.

18 CHAIR WILKERSON: Right.

19 MEMBER MCCORMICK: So, I mean we could
20 address it at a higher level. I think the
21 fundamental question I have for this group is it
22 something we should wordsmith into a
23 recommendation or drop? I don't know if hearing

1 none is by acclamation or not.

2 MEMBER KISSINGER: I think I am
3 generally supportive of doing what you are talking
4 about. Until just recently you said well, we have
5 four things that we are going to look at. It would
6 take them an hour to do. I mean it seems like if
7 it is no more complicated than that. I mean, I'm
8 not even sure it is worth making --

9 CHAIR WILKERSON: I think it is a
10 little bit more complicated than that.

11 (Simultaneous speaking.)

12 MEMBER DENARO: In a sense, though,
13 this hits at the center of what we are supposed to
14 do as a committee. In other words, identify gaps
15 that you guys might be blind to in this thing, you
16 know we need to look into this.

17 CHAIR WILKERSON: Right.

18 MEMBER DENARO: So but that is going a
19 little bit beyond just saying do Scenario Planning.
20 I think if we were to provide value in a
21 recommendation, we would have short-lived
22 scenarios of where, I mean I'm sure you considered
23 this possibility and what you would do about it.

1 CHAIR WILKERSON: I think that is where
2 our subject, we have looked at it with respect to
3 the five areas that we looked at, fleet mobility,
4 and all the others, and said it is not clear which
5 one we would pick for scenario planning. So, is
6 there some way after we have had a discussion about
7 these other topics that there is one that we
8 believe, one particular scenario, that we need to
9 propose. And that is what is on the table.

10 MEMBER CAPP: Yes but the way to put it
11 is some of these different scenarios that have been
12 talked about here, somewhat hypothetical, who
13 knows, and just say plan these against -- with that
14 change, we will add it, with that change, what they
15 are doing research and work on or not.

16 CHAIR WILKERSON: Right, exactly.

17 MEMBER CAPP: Some of it won't matter
18 and that would be good to know.

19 CHAIR WILKERSON: That's a good way to
20 put it.

21 MEMBER DENARO: So maybe what we need
22 to do, I'm thinking out loud, you might not like
23 this, but maybe we do need to brainstorm some of

1 the areas which we think are blind spots and see
2 if we can come to a consensus on five or six that
3 --

4 CHAIR WILKERSON: So, for example --

5 MEMBER CAPP: What if everybody is
6 sharing cars does that matter? It may not but you
7 guys took a look at that. Take a look at it. It
8 takes two hours. Take a look at it and see if it
9 changes your plan.

10 CHAIR WILKERSON: Exactly. So, for
11 instance, you talked about impact if it is adopted
12 globally and not here, or if they move a lot faster,
13 we are behind the ball, what are the implications
14 for policy and regulations.

15 I think Joe mentioned what was it the
16 fleet -- workforce. Right? There was a workforce
17 issues saying what if we don't address these
18 issues? What are the implications on these other
19 issues we are trying to address? Fleet mobility
20 came up as another. So, I think it is open for
21 discussion. I don't know which -- whether there
22 is consensus on one particular topic or another.

23 MEMBER SHAHEEN: I think it is just a

1 very useful methodological tool and you can apply
2 it to all different types of topics. And you know
3 maybe the recommendation is that from the research
4 side, that this is something that they more
5 seriously integrate into their toolbox for future
6 research on a regularized basis.

7 Because I was engaged in this project
8 and Scott was part of it for Dr. Kunik Lee on
9 Integrated Active Transportation Systems. So, it
10 was the whole idea of everything being connected
11 all the time. And we spent \$1.5 million doing a
12 very serious scenario analysis and we developed a
13 strategic research plan that went alongside of some
14 of those scenarios but it wasn't executed upon.
15 So, it is not meaningful to do that exercise, unless
16 you follow up on it or revisit it. Because if we
17 did that now, gosh, probably, what four years ago
18 now, and we never revisited.

19 MEMBER MCCORMICK: And I would point
20 out that there was political reasons. Not
21 political in terms of governmental but there was
22 departmental issues that it wasn't executed on.

23 MEMBER SHAHEEN: Some of the things

1 that were discussed and I don't know if you remember
2 this, Scott, but some of the things that were
3 discussed have actually come to pass.

4 MEMBER MCCORMICK: Yes, they have
5 actually come to pass, which was interesting.

6 MEMBER SHAHEEN: Yes.

7 MEMBER MCCORMICK: But that was only
8 four years ago when they had a document in front
9 of them so this could happen. So, that was
10 worthwhile.

11 MEMBER SHAHEEN: Just I think advances
12 and the role of the mobile phone, robotics, remote
13 printing technologies, a lot of the things that --
14 medical health, a lot of that stuff was forecast
15 in it.

16 MEMBER MCCORMICK: Yes, a lot of the
17 global health stuff was in there.

18 MEMBER BERG: So, Susan, is your point
19 that we shouldn't give them the areas that we think
20 are -- that we just say integrate this into your
21 normal process?

22 MEMBER MCCORMICK: No, I think we
23 should give them a starting project of what we would

1 recommend they look at and then I said that they
2 should continue that process scenarios of
3 opportunity. And we may have different -- it could
4 be that somebody wants to have them look at
5 multimodal but that wouldn't be the JPO. Somebody
6 may want to look at rural but that is not JPO.

7 JPO is fundamentally concerned about
8 the rulemaking and the deployment and that is the
9 model. I think if we started there, that model,
10 if useful, if they find utility in it, in using it,
11 it will get populated within the organization. I
12 mean, we have seen that in the past, right, Stephen,
13 that somebody has gone off and done something --

14 MEMBER BERG: It may or may not; the
15 example Susan just gave you.

16 CHAIR WILKERSON: Right.

17 MEMBER MCCORMICK: Oh, there were some
18 personalities involved in that.

19 MEMBER BERG: Whatever. I'm just
20 saying it may or may not.

21 MEMBER MCCORMICK: Right, it may or may
22 not. But it is kind of like, it is kind of like
23 what General Lee said, having ordered in a

1 restaurant doesn't satisfy your hunger but it gets
2 you going in the right direction.

3 MEMBER SHAHEEN: Well, I know that when
4 Dr. Lee envisioned the project, he really wanted
5 the scenarios to be aligned with the Strategic
6 Research Plan so that if something happened, we
7 would have research going on in these areas. So,
8 we would not be like oh, shocking. Oh, precious
9 metals are important? Oh, China took over that.
10 Right? My husband is in that business so I know
11 a lot about it.

12 But that is actually what happened to
13 us in this country. For example, precious metals
14 are really important to transportation now and to
15 electronics and everything we do and we didn't
16 invest properly in that. So, Dr. Lee's vision was
17 like if we did these scenarios, we could develop
18 a strategic research plan, revisit it annually but
19 make sure that we had lines of research going.

20 CHAIR WILKERSON: Or we do sort of
21 subtract from those that are irrelevant today.

22 MEMBER SHAHEEN: Yes, so that the U.S.
23 government -- his big concern was like the U.S.

1 government was going to be taken by surprise by
2 something. You know some like -- he was really
3 keen on tremendous energy breakthroughs that could
4 take us off petroleum fuel, for instance, and how
5 that would cause just international disruptions
6 but also what could it enable here, in terms of the
7 economy and that we needed to at least be looking
8 at things like this.

9 CHAIR WILKERSON: It makes sense.

10 MEMBER SHAHEEN: Yes, I mean I don't
11 think it is something that requires a \$100 million
12 or \$200 million commitment but I think it is saying
13 we need to think about the future and we are in a
14 disruptive space now.

15 MR. SPENCER: If I may, it is part of
16 your system engineering process is establishing
17 your needs.

18 CHAIR WILKERSON: Right.

19 MEMBER SHAHEEN: But like going back
20 and reassessing, too.

21 MR. SPENCER: Part of system
22 engineering is the need to go back and reassess,
23 right, too?

1 MR. SHEEHAN: But we really are on the
2 fun side of V, is kind of where we are looking at
3 now is the process. And I think part of this could
4 be adopting best practice in developing systems,
5 which is agile. A lot of times we don't follow that
6 process, which maybe gets you in these
7 predicaments.

8 CHAIR WILKERSON: Kirk.

9 MEMBER STEUDLE: So, it seems to me,
10 listening to the presentation, that an appropriate
11 action for this committee is to, in the
12 recommendation, recommend that they engage in some
13 scenario planning, and then, parentheses, such as,
14 but not limited to, just such as this topic and this
15 topic, without a whole lot of extra in it.

16 Some of the stuff that you guys have
17 already said, they are not full paragraphs of doing
18 it in this form. Look at this piece, this piece,
19 and this piece in one sentence. And then give them
20 the direction that says now, go do this because
21 those might be the relevant ones to look at.

22 But another group of people like this
23 may come up with three other ones that actually may

1 be better. But we give it to the Secretary and said
2 you need to think about those. You really need to
3 do Scenario Planning and do some Scenario Planning
4 around the Scenario Planning.

5 MEMBER SHAHEEN: That is kind of where
6 I am more coming from is that it is just a way of
7 opening up how you are thinking about the world and
8 then looking at your Strategic Research Plan and
9 seeing do we have gaps here.

10 CHAIR WILKERSON: That's a good way of
11 explaining the rationale for doing it.

12 MEMBER SHAHEEN: It's a gap analysis in
13 many ways.

14 MEMBER STEUDLE: And I think that is a
15 valuable thing that the Committee can point out.

16 MEMBER SHAHEEN: Yes, that is one of
17 the reasons I put this as my number two is I just
18 think it is a gap in terms of the research program,
19 with the exception of that great project I got to
20 do, which was very fun and cool and I am happy to
21 share it with you. I think, Sheryl, I sent up a
22 copy of that to you last year but nothing got done
23 with it. And that is sort of the part that we have

1 got to be careful about is commissioning Scenario
2 Planning that doesn't get executed relative to the
3 strategic research plan.

4 MEMBER STEUDLE: Well, but even if it
5 doesn't get published, the staff is working on it.
6 As long as it is not done by completely people
7 outside of the Agency but if it is done and involves
8 staff that are working on it, it becomes part of
9 their knowledge.

10 MEMBER SHAHEEN: Yes, see, and our
11 project didn't do that, Scott. Ours was an
12 external with the exception of --

13 MEMBER MCCORMICK: There was reasons
14 for it was being external.

15 MEMBER SHAHEEN: -- of Dr. Lee, yes.

16 MEMBER MCCORMICK: I mean this is
17 orthogonal to our discussion but Federal Highways
18 called me in said we put out this RFQ for this
19 planning and they wanted us to look at all the
20 responses they got. And nobody submitted a
21 response that was more than probably 30 percent of
22 what they were asking for.

23 And so Gail Julius and I sat down and

1 rewrote it and said this is what you need to have
2 them ask and then it went out to bid. And we had
3 to get these universities that were bidding on it
4 to bring in people like Scott, and whoever, so they
5 had balance in their program of what they were
6 addressing.

7 So, there was some external -- well, a
8 lot of external, and there was some internal to help
9 provide a little bit of guidance. But I don't know
10 that Scott Andrews or myself carried into that and
11 came out smarter on our part of it. We came out
12 smarter on being aware that hey, somebody thought
13 of this and they had nothing to do with this
14 industry or this sector. And that was very
15 valuable.

16 MEMBER SHAHEEN: But I think it would
17 be really helpful if members of the Department went
18 through that exercise.

19 MEMBER STEUDLE: That's my point, at
20 least engage in the conversation because then the
21 knowledge, even let's just say again, get some
22 small P or big P political problem through the
23 process. The knowledge transfer has already

1 happened.

2 MEMBER SHAHEEN: Yes.

3 MEMBER MCCORMICK: Plus the process
4 becomes ingrained. I now know what to do when
5 addressing them.

6 MEMBER DENARO: Yes, I think my
7 observation for the most part is whether the JPO
8 is working is that they are picking directions to
9 go and for very good reasons become advocates for
10 that and may not consciously look at the reverse
11 side. So, that was very abstract. I will give an
12 example. You have already told them the DSRC.
13 There are a lot of really important reasons why that
14 is a good choice. There is another scenario but
15 that reason is becoming more and more real than A,
16 it could be not DSRC. It could be cellular
17 technology, not the current one but the future one,
18 and secondly, it may not be that involved with the
19 government. It could be done private sector
20 because there is a great reason for that.

21 I'll give you another example,
22 automated vehicles, which you guys face and OEMs
23 is what if Google, UberX, guys like whoever got

1 approval to operate anyplace at all times with
2 automated vehicles as long as it is under 25 miles
3 per hour. What does that mean? So, my point is
4 then, our advice would be the JPO you need to
5 consider what would be its role or what it would
6 need to do research-wise, should this scenario
7 occur.

8 So, I like your suggestion, Kirk, is
9 what we would say is here is some meaty examples
10 of what you might look and these are not necessarily
11 all of them, but if you're not thinking about these,
12 it ought get you thinking that you ought to be
13 getting into this. So, is that what we want to do?

14 CHAIR WILKERSON: So, right now it
15 seems like there -- is there a consensus that we
16 should continue to have this as a topic or included
17 as a recommendation and then maybe put a couple of
18 people together to synthesize?

19 MEMBER BERG: We may not need to or be
20 able to do it in the preliminary draft.

21 CHAIR WILKERSON: Right but I'm saying
22 we should certainly explore it. Right?

23 MEMBER DENARO: I don't think we

1 should. I think it should be in the next.

2 MR. FEHR: I am just going to reiterate
3 one of my earlier points on your comment, Bob. We
4 are starting to become very agnostic on
5 communication media there that are going to be used
6 to accomplish our transportation goals. The
7 analogy I like to use is that it really doesn't
8 matter whether you put that red octagon stop sign
9 on a wooden post, or a metal pole, or at some time
10 in the future, somebody creates a hologram that
11 they project. It is the same meaning. And that
12 is the kind of thing that we are trying to work
13 through right now is how do you transport these very
14 uniform daily units using whatever medium is
15 appropriate.

16 CHAIR WILKERSON: Or you get rid of
17 them altogether and put them on a display on your
18 windshield.

19 So, I think George was first and then
20 Jeff.

21 MEMBER WEBB: Just a question. Scott,
22 you said you had a conversation with Ken who says
23 oh, yes, maybe we should be doing this. So, here

1 is the head of the JPO who has got in his head that
2 maybe this should be. So, is this discussion aimed
3 at the Secretary for the entire Department of
4 Transportation to involve all the various --

5 MEMBER MCCORMICK: Well, there are two
6 ways you can do it. If you want to include rural
7 and transit and multimodal, then we should address
8 it higher up the food chain.

9 MEMBER WEBB: Is NHTSA in this
10 discussion as well?

11 MEMBER MCCORMICK: So, it's really up
12 to the committee what it wants to do.

13 MEMBER WEBB: So, I'm just trying to
14 understand how big and broad this issue can get when
15 we are trying to identify you need to be thinking
16 about doing this or do we want to narrow it in some
17 fashion. So, that's all.

18 CHAIR WILKERSON: Jeff.

19 MR. SPENCER: Well my question is, we
20 have heard a couple questions, we do it anyway.
21 Does the outputs come back to this body as an
22 advisory group for prioritization and direction?

23 MEMBER MCCORMICK: No.

1 CHAIR WILKERSON: No, it's just an
2 exercise that they use internally. Predictive
3 modeling.

4 MEMBER MCCORMICK: We are just their
5 make work team for them.

6 You know so my point, my answer to your
7 question would be if the group wants to include,
8 like we said, multimodal or rideshare or rural or
9 transport or whatever, then we should direct the
10 recommendation higher up the food chain. If it is
11 just a recommendation for the JPO, then it is fairly
12 well focused. That is something this group needs
13 to decide what it want to do.

14 CHAIR WILKERSON: Okay.

15 MEMBER MCCORMICK: And what I would
16 recommend doing in the interest of time is, since
17 we are not going to put it in this level, this past
18 recommendation, or since I recommend we spend more
19 time on it going forward, maybe we close it out and
20 see if we can't get a reconvening of that telecom
21 for people that are interested in talking about it.

22 CHAIR WILKERSON: Thoughts? Is that
23 okay? All right, so that will be an agenda item

1 for the next discussion. So, we will table that.

2 Is there consensus that that will not
3 be included in this round of recommendations?
4 Okay.

5 **DISCUSSION OF ITS TECHNOLOGIES IN**
6 **GOVERNMENT FLEET VEHICLES**

7 All right, so now it is 1:35 and we were
8 going to go to the subcommittee updates. We can
9 start with those updates.

10 MEMBER BERG: Can we finish the thing
11 on the postal vehicles?

12 CHAIR WILKERSON: Oh, the fleet?

13 MEMBER BERG: Yes.

14 CHAIR WILKERSON: We can talk about
15 that. We can add that now, if you would like.

16 MEMBER MCCORMICK: Well, that one, I
17 think we can and should put into this report is that
18 the recommendation to the Secretary of
19 Transportation not to the JPO or anybody else, but
20 that requirements for -- in the solicitation or
21 purchase of fleets of vehicles for the government
22 should include -- I haven't really well thought
23 this out yet -- should include the ability to

1 upgrade those systems to accommodate future
2 mandated requirements. Or should we be specific
3 about the V2V?

4 CHAIR WILKERSON: What is the goal?

5 MEMBER CAPP: If you are going to call
6 it specification, it will have to be specific.

7 CHAIR WILKERSON: What kinds of
8 specifications? What is the ultimate goal that we
9 want?

10 MEMBER MCCORMICK: Well, the ultimate
11 goal is I don't want somebody buying \$100,000 to
12 \$200,000 worth of postal vehicles over the next
13 five years and completely ignoring the fact that
14 there is going to be a rulemaking requiring
15 automakers to put in capability. If there is an
16 opportunity to put it in a massive amount of a fleet
17 near-term, that --

18 MEMBER CAPP: You might have to put
19 effectively, aftermarket integrated systems like
20 we are not in the safety pilot. Is that what you
21 are --

22 MEMBER MCCORMICK: Well, since --

23 MEMBER CAPP: They could specify that

1 they can't go buy right now. The rulemaking you
2 are referring to is just starting. It won't be
3 done for a few years.

4 MEMBER MCCORMICK: Right but --

5 MEMBER CAPP: They have to buy cars in
6 the meantime.

7 MEMBER MCCORMICK: But they are not
8 going to be buying them all tomorrow. They are
9 going to be buying them in stages over time. And
10 as you know, it is a model upgrade for future models
11 beyond the first acquisition that they consider
12 putting --

13 MEMBER CAPP: I guess my point is I
14 don't know what they would do different if they
15 can't go buy one today. There all sorts of -- the
16 Ann Arbor Safety pilot that were updated all
17 different brands, and sizes, and shapes, and
18 trucks, and buses and everything that were modified
19 to add V2V devices on them. Right?

20 MEMBER MCCORMICK: Right.

21 MEMBER CAPP: I am not picturing what
22 they would do different in their shopping over the
23 next couple of years.

1 CHAIR WILKERSON: They have to deliver
2 the mail.

3 MEMBER MCCORMICK: Well, I don't know
4 that -- in reading the procurement spec, and it was
5 several hundred pages long, so I'm having to go by
6 my failing memory, aside from the fact that it had
7 no mention of any road, weather, or traffic sensing
8 capability -- it doesn't have a temperature gauge.
9 It doesn't tell you what the outside temperature
10 is. It doesn't have an architecture that lends
11 itself to even through OBD extracting useful
12 information. And so, it may be that that is fine,
13 that that is going to evolve away, whatever.

14 MEMBER CAPP: I don't know where to go
15 to buy a car that doesn't have a temperature gauge
16 anyway.

17 MEMBER MCCORMICK: Well, it is a postal
18 vehicle.

19 MEMBER CAPP: That would be hard to
20 find.

21 MEMBER MCCORMICK: It is not one that
22 is displayed on the dash. Let's put it that way.
23 It may measure temperature in some way, shape, or

1 form but it doesn't have an output reading. I
2 don't know what the answer is. I just would like
3 to see if the government is going to buy fleets of
4 vehicles, we have to figure out some way to --

5 MEMBER CAPP: I like the idea of
6 targeting government fleets to help learn and
7 gather more data, to do all the stuff that we are
8 talking about. I am just trying to think how do
9 you make that happen through this procurement
10 process. Or is it some broader recommendation we
11 just made to really work hard to identify using
12 government fleets to advance the things that we are
13 talking about. Maybe it is a broader
14 recommendation.

15 MEMBER MCCORMICK: How would you do it,
16 Kirk, for your vehicles?

17 MEMBER ALBERT: It could also help with
18 the market penetration issue in rural areas as
19 well. So, some general statement that says this
20 helps you through the last mile should be put in
21 for future considerations.

22 MEMBER MCCORMICK: Kirk, if you are
23 buying 100 new snowplows or something, how would

1 you approach it?

2 MEMBER STEUDLE: We are doing it
3 aftermarket. We are putting our own stuff on.

4 MEMBER MCCORMICK: But you don't
5 require it when you acquire the equipment.

6 MEMBER STEUDLE: No, you can't buy it.
7 We can't specify it. But we are putting our own
8 on.

9 MEMBER CAPP: That is why the general
10 suggestion would be upgrade it. Whatever postal
11 trucks you buy, up it.

12 MEMBER STEUDLE: I mean that is what we
13 are looking at in Southeast Michigan with our own
14 fleet of cars that are either GM, and Ford, and
15 Chrysler cars, though it would be updated with the
16 basic safety message transponders, the safety
17 power CAP. Just the low end. They are not fully
18 integrated. We don't want them fully integrated.
19 We just are trying to populate the area with cars
20 with basic safety messages. And then the people
21 that are developing them are driving around and now
22 there is a fleet that is out there that they can
23 talk to.

1 MEMBER MCCORMICK: Well, and your snow
2 trucks also broadcast their position locations
3 through other technology so that people know where
4 roads have been cleaned.

5 Walt, you look like you are pensively
6 waiting to say something.

7 MR. FEHR: Well, one thing you might be
8 able to do here and this might actually be a
9 significant incentive, my private sources are
10 telling me that certain automakers are already
11 putting product plans in place to build retrofit
12 devices for their existing fleets, going back to
13 model year '96. Other automakers are probably not
14 doing that.

15 So, maybe one of the things you could
16 do is put in a requirement that they at least be
17 from one of those automakers that does have that
18 part in place.

19 MEMBER CAPP: Basically this is the
20 same thing on plan to upfit those vehicles.

21 MEMBER ALBERT: Yes, the language was
22 a little more generic. Certainly those vehicles,
23 that won't be available.

1 MEMBER CAPP: Or we can specify, I
2 would be alright with this, that all those postal
3 vehicles be 2017 Cadillac Sevilles.

4 (Laughter.)

5 (Simultaneous speaking.)

6 CHAIR WILKERSON: Okay, so you will
7 take that upon yourself to draft something to
8 circulate, Scott, and put to the committee?

9 MEMBER MCCORMICK: Yes.

10 CHAIR WILKERSON: Okay. Were there
11 any others we missed? What about the workforce
12 issue? That was outstanding. Joe or --

13 MEMBER ALBERT: Yes, I don't know what
14 the recommendation is. I recognized the problem
15 but not material language for the solution. But
16 maybe it is something that is as general as JPO
17 should be encouraged to look at addressing the
18 workforce development issues, whether it be
19 through greater training or opportunities like
20 that.

21 MEMBER MCCORMICK: Actually, if I may,
22 they already are.

23 CHAIR WILKERSON: Could that be rolled

1 into the Scenario Planning as an example?

2 MEMBER MCCORMICK: They already do
3 have that. They have a professional capacity
4 building program and they have just this year
5 launched a separate professional capacity building
6 for connected vehicle technologies.

7 MEMBER BERG: Maybe they could make it
8 more well-known.

9 MEMBER MCCORMICK: Yes, right now, the
10 problem is right now they have a contract, I believe
11 it is Booz Allen through an IDIQ, to develop what
12 needs to be in there. And just as late as last
13 week, they were in touch with Elaina Farnsworth on
14 how do I incorporate the connected vehicle
15 professional course.

16 So, they are now building that
17 repository of training. They are just now doing
18 it. And I only happen to know about it because they
19 called to ask about a particular program. So, they
20 are doing that.

21 I would offer, though, that the only
22 thing they are doing is basically stuff relevant
23 to V2V and V2I. And if they are not doing stuff

1 that might be relevant to all the other areas
2 represented in the room, tor the transit, tor the
3 rural, tor whatever.

4 MEMBER ALBERT: Well, maybe you could
5 retool what I have just said. Instead of it being
6 more focused on delivery of training, be involved
7 in maybe what should the future transportation
8 professional, what skills should they have to
9 address connected vehicles. Something along
10 those lines might be more appropriate. I could
11 draft something up and send it to you.

12 CHAIR WILKERSON: Okay, that would be
13 great. It also falls into Scenario Planning.

14 MEMBER ALBERT: Exactly.

15 CHAIR WILKERSON: It is one of those
16 little elements that falls into that bucket. That
17 is a perfect example.

18 Scott, maybe you can also maybe tweak
19 that in your recommendation, as an example,
20 potentially.

21 MEMBER MCCORMICK: Okay.

22 MEMBER ALBERT: And Scott, recognize,
23 I am saying about these work force development

1 centers of excellence but we manage ten states.
2 The rest of the states are also managed by other
3 universities as well and none of them knew about
4 this course that you have mentioned.

5 CHAIR WILKERSON: Okay.

6 MEMBER MCCORMICK: Well and AASHTO
7 also its nationwide deployment map and all of that
8 information but I am assuming AASHTO is socializing
9 that through the states.

10 MEMBER ALBERT: Well, what we are
11 looking at is what kind of more future casting
12 looking at what transportation will look like in
13 the future and the skills to support that.

14 MEMBER GOODIN: I think the skill set
15 is really an important part of this, too. As we
16 were talking about earlier, agencies are unable to
17 salaries that are needed for these positions. And
18 so having clearly-defined skill sets helps with
19 that argument of raising or of establishing those
20 positions and the appropriate pay.

21 CHAIR WILKERSON: Okay. So, we have
22 that. I will add that as an action item. So,
23 Steve, you will look at drafting that and you will

1 also look at incorporating in a future discussion
2 for what we might do for Scenario Planning.

3 MEMBER ALBERT: Yes.

4 CHAIR WILKERSON: Any other topics we
5 missed? Thanks for raising that.

6 MEMBER DENARO: Scott, is that the
7 credentialing program that you were talking about?

8 MEMBER MCCORMICK: Yes.

9 **SUBCOMMITTEE UPDATES TO COMMITTEE**

10 CHAIR WILKERSON: Okay, so we are 15
11 minutes early. We were going to, then, as a group,
12 talk about what the committees discussed and how
13 we are going to proceed from there. And then we
14 can go into -- we will take a break and then we will
15 discuss the action items, the next meetings. And
16 then, Scott, you also had suggested possibly
17 talking about what we wanted to do next for our
18 future meetings.

19 MEMBER MCCORMICK: Right and I think we
20 have done a lot of that discussion already.

21

22 **DATA**

23 CHAIR WILKERSON: Okay, I think it will
24 go pretty fast. So, do you want to start with an

1 update? We can at least get through one of them,
2 the next one or two of them in the next 15 minutes.

3 MEMBER DENARO: Why is everybody
4 looking at me?

5 CHAIR WILKERSON: No, you have got
6 data. So, why don't we go with public funding?
7 Who had to leave early? You have to leave early,
8 right? So, why don't we go with --

9 MEMBER DENARO: We can do data if you
10 want, I was just teasing.

11 CHAIR WILKERSON: Okay, go right
12 ahead. So, Bob will start and then we will go with
13 Funding because you have to leave early. Is that
14 okay? Great.

15 MEMBER DENARO: So, I don't want to
16 spend a lot of time on this because basically, what
17 we decided is it is hard to rewrite recommendations
18 or whatever as a committee. So, I took all the
19 inputs. I had to go away and do a draft, send it
20 out to my group. We will kibitz and come back and
21 we will end up with something in September.

22 But generally walking through here, we
23 are going to add some specificity to our data policy

1 consistency question, giving more examples. So,
2 for example, we said current policies between the
3 states with data sharing vary. Rather than just
4 leave it abstract like that, we are going to give
5 some examples: liability, privacy, ownership,
6 security. So, again, trying to make it specific
7 so JPO gets what we are getting at and they answer
8 the question we are really asking.

9 The same thing with data decomposition,
10 where we talked about there might be different
11 levels of policies that would apply to different
12 types of example. Three examples, we mentioned
13 this earlier, with road information, weather and
14 traffic.

15 We simplified some wording on some of
16 ours to get our recommendations be nice and concise
17 and to the point but it would depend on the
18 descriptive paragraph before that, as we agreed in
19 the template, to flesh that out and make sure we
20 understand that. But I think our goal was to make
21 recommendations as concise as possible so there was
22 a clear question being asked through a
23 recommendation we had made so we get a clear answer

1 to that.

2 I'm trying to read my writing here. On
3 data policies, again, we are going to enumerate
4 some of the other industries that seem to have
5 solved to a reasonable extent the problems of data
6 policies and recommend that, at least as a startup
7 list, the JPO ought to benchmark those solutions
8 there. Let's see.

9 CHAIR WILKERSON: There was on with
10 Raj. Remember, we said we were not going to break
11 out. Raj, I believe you had suggested that we do
12 a separate category.

13 MEMBER DENARO: Yes. Yes, thank you.
14 Thank you. Raj, you had a good comment that they
15 were related but we decided to leave them separate
16 because we want to make sure that each one gets
17 addressed and gets an answer. If we make them
18 subsets, we were a little concerned that they might
19 kind of answer the major area but not specifically
20 address each of the sub ones.

21 MEMBER RAJKUMAR: But some of them went
22 to different people.

23 CHAIR WILKERSON: Right.

1 MEMBER DENARO: But you are exactly
2 right that they are related. And then I think in
3 a lot of our areas, we had this ambiguity between
4 whether it is a JPO role or a NHTSA role. There
5 is no ambiguity between them about this role. It
6 is just that some of our recommendations might have
7 bridged the two. So, where that happens, we are
8 going to make sure we mention NHTSA where it is
9 appropriate and mention our focus on JPO, where
10 that is appropriate.

11 And then we are going to tighten up --
12 Scott had a good suggestion on if we are going to
13 say hey, you ought to have all these people in and
14 tell them what kind of technologies they have.
15 Well, what are they going to do with that? We are
16 not just saying they should listen well. We are
17 saying they should come up with some results. So,
18 that is kind of a general view of what we are doing.
19 You will see the results.

20 CHAIR WILKERSON: Okay, thank you so
21 much, Bob. Ginger.

22

23 **FUNDING**

24 MEMBER GOODIN: Okay, so the group is

1 in general agreement to start with how we have
2 structured this and keeping the two
3 recommendations we have but doing some tweaking to
4 what was there.

5 So, on the first recommendation, which
6 is the deployment assistance, we want to modify the
7 language to make sure we are clearly saying this
8 is about supporting deployment, accelerating
9 deployment. And we had a lot of discussion about
10 the dollar amount. I think you would agree let's
11 put a dollar amount in there but what should that
12 dollar amount be.

13 We know that the Connected Vehicle
14 Pilot Program is the \$100 million. So, we have
15 that as kind of one benchmark. We also, George had
16 looked up the Senate proposal, which was the \$30
17 million deployment assistance. For example, we
18 had those kind of two benchmarks. So, kind of the
19 consensus of the group is that the wording would
20 be to continue with annual deployment grants of a
21 minimum of \$100 million a year. So, that is what
22 we would propose.

23 In addition to that, we want to

1 emphasize opportunities for multiple agencies and
2 regions to be part of this deployment assistance.
3 We want to include a component for rural deployment
4 of the program, not specifying an amount, a
5 percentage, but that that be appropriate,
6 considering safety issues in rural areas and the
7 technologies that can support that.

8 And then finally, when looking at the
9 Senate proposal, we noted that there was a 50-50
10 match. And so we wanted to put some language in
11 there about match requirements. We kind of all
12 were kind of taken aback by that.

13 So, rather than specifying what that
14 match amount is, just describe what kind of what
15 the concerns of being potential barriers for some
16 agencies and coming up with a 50 percent match.
17 And then maybe there should be a lower level match
18 at the beginning and that that match changes over
19 time. But we want to have some discussion in there
20 about that particular issue.

21 On recommendation 2, which is the P3s,
22 just a few things here. We want to include an
23 example, which would likely be communications back

1 hall or Kirk had an example of an example of working
2 with or being approached by a private sector entity
3 about that, just to kind of provide a little bit
4 more information about what we are talking about
5 here. There could be others that we include.

6 But we had some discussion, too, about
7 kind of the economies of scale of having a bigger
8 scale public-private partnership, multistate
9 coalitions, multiagency coalitions. So, we want
10 to mention that.

11 And I think beyond just doing research,
12 the idea of actively bringing together groups,
13 public and private together, to talk about what the
14 opportunities and the challenges would be would be
15 something else we want to highlight.

16 CHAIR WILKERSON: Great.

17 MEMBER GOODIN: Did I capture
18 everything?

19

20 **PUBLIC TRANSPORTATION**

21 CHAIR WILKERSON: All right. So,
22 while we have a few minutes, how about public
23 transportation?

24 MEMBER CALABRESE: I think most of the

1 group was here when we had the discussion, so we
2 kind of combined. I think I am going to rewrite
3 what we have. The one thing I'm really waiting for
4 is the format of the template to try and fit
5 everything in. And then the other discussion was
6 do we workforce development separately, which I
7 think we are going to do.

8

9

SHARED USE MOBILITY

10 CHAIR WILKERSON: Okay and then shared
11 use, do you want to reiterate just for the record?

12 MEMBER SHAHEEN: Sure. So, for the
13 committees, you already have my revisions in your
14 inbox. So, we have four recommendations. Let me
15 pull those up for you now.

16 CHAIR WILKERSON: You're making us
17 look bad.

18 MEMBER SHAHEEN: Yes, I don't have time
19 to spare. I have got to like do without even
20 pooling what I am getting from the engineering
21 department about my life that is about to happen.
22 I have a couple of meetings I need to attend, et
23 cetera.

24 Okay, Recommendation 1 is going to be

1 federal policy guidance. Recommendation 2,
2 engaging FTA in the public transit agencies. I
3 also have a note here Bob, since you are with us,
4 that this framework should be integrated with FTA
5 and the ITS Joint Program Offices for each program
6 and I just said e.g., mobility. So you will see
7 that.

8 And then third is focusing on
9 accessibility and shared mobility deployment.
10 And you will, for those of you who opened up your
11 inbox, it is much broader now. It includes equity,
12 accessibility and urban, suburban and rural
13 locations. And then the fourth is dedicated
14 sources to planning issues in shared mobility.
15 And it looks a lot like Bob's format now. It is
16 two pages.

17 CHAIR WILKERSON: Okay. And for the
18 Scenario Planning, you are going to come up with
19 one potential draft.

20 MEMBER MCCORMICK: I am probably going
21 to draft a couple of versions --

22 CHAIR WILKERSON: Okay.

23 MEMBER MCCORMICK: -- and send it out.

1 And I will probably just send it out to everyone
2 or send it to you and you can disseminate to
3 everyone. And then I think because it will be two
4 scopes, it will be either just one for the JPO or
5 one that might encompass a number of areas.

6 CHAIR WILKERSON: Survey Monkey.

7 MEMBER MCCORMICK: Right. And then
8 whichever one we have consensus on, then we can
9 wordsmith. That one, however, we are going to
10 continue that discussion into our next session.
11 So, I think the other thing that I am going to work
12 on is the fleet one. And I will do the same thing
13 with that. I will put together some straw language
14 and then we can have --

15 MEMBER CAPP: The scenario one,
16 though, I thought we said we weren't including it
17 in the --

18 MEMBER MCCORMICK: Are we going to
19 include that one?

20 CHAIR WILKERSON: That is going to be
21 deferring. That was deferred.

22 MEMBER MCCORMICK: Right, that one we
23 are deferring. So, the fleet one is the one we are

1 going to --

2 CHAIR WILKERSON: The fleet one is the
3 one you are going to draft.

4 MEMBER MCCORMICK: Right.

5 CHAIR WILKERSON: You are also going
6 start thinking about that for future sessions.

7 MEMBER MCCORMICK: Right. I will send
8 it out to the committee members ahead of whenever
9 we can schedule a call.

10 CHAIR WILKERSON: That's fine. You
11 can say non-recommendation. It doesn't mean we
12 can't multitask and have it on our tickler list.

13 And then Steve is going to draft one for
14 workforce or future tasking for skill sets, which
15 will be circulated.

16 So, I think that is a great summary. Do
17 you have questions or is there anybody around the
18 room who has questions?

19 We were going to take a break. And then
20 what I recommend is we come back, think about our
21 action items, what we want to do next, and then come
22 up with a time line for all this.

23 And I have a few potential -- I think

1 if we work backwards, saying that if the worst case
2 scenario is September 25th, that we plan to send
3 that. Then, we can work backwards and figure out
4 how much time we all need to have the review process
5 with the committee.

6 So, we will take a ten-minute break and
7 then we will come back. And then my hope is that
8 we will be done by 3:45.

9 (Whereupon, the above-entitled matter
10 went off the record at 1:58 p.m. and resumed at 2:13
11 p.m.)

12 CHAIR WILKERSON: Okay, I think we had
13 a very -- one, I hope everyone had an opportunity
14 to weigh in and feels comfortable about the
15 progress we have made. Again, if there is any
16 thoughts or comments, or additions that we need to
17 make, please let me know.

18 **REVIEW ACTION ITEMS**

19 I have got some notes here. Okay, so
20 we are now at a point where we can discuss our --
21 we discussed our action items around the table just
22 a few minutes ago but there were a couple of
23 comments that came up.

1 We also need to form either a small
2 group or prepare these draft finals to be submitted
3 to the full committee.

4 So, I think the most difficult issue
5 will be working on the time line before we go to
6 look at what else we are going to do.

7 So, our last -- we had an advice memo
8 report that was circulated to everyone earlier in
9 the year. It was a 2014 to 2017 time line. We said
10 September the first advice memo was due and
11 February it was submitted to Congress, pending the
12 Secretary's signature.

13 We said that by September we would draft
14 the second advice memo and that it would be due to
15 the ITS JPO.

16 So, the last time it took quite a bit
17 of time for it to circulate because it has to go
18 to the JPO four to six weeks or so on. So, the
19 sooner we get it to them, the more time they have.

20 We have a September time frame. So, I
21 am looking at the end of September, if we were to
22 work backwards. And based on that date, if we have
23 to extend to October, we can. But in the interest

1 of the momentum we have, it might be great to go
2 ahead and try to do as much as possible.

3 If you have your calendars, one
4 suggestion is that if we look at that Friday,
5 September 25th as the final final that would be
6 given to Stephen Glasscock, that would require us
7 to have that circulated as the final final well
8 before then. I'm going backwards.

9 I was assuming maybe we could have a
10 final edit made the week of September 18th. We
11 could get all comments from the full committee
12 sometime around September 11th. We could have a
13 combined draft that would mean once the
14 subcommittees have revised their draft, they would
15 then give that to me or a small group. We would
16 then combine all of them together, dot i's, check
17 t's and then circulate that to the full committee
18 sometime around September 3rd.

19 So, that would leave the week of maybe
20 September 28th that the subcommittee would be able
21 to draft the full comments and that would be August
22 28th. And I don't know if that is too soon. Does
23 everybody follow me?

1 So, what is your thought, based on what
2 the subcommittee leaders have to do in terms of
3 reaching out to their subcommittees and getting --
4 is that a doable date or do we need to push this
5 further down into October?

6 MEMBER SHAHEEN: Well, if we can do the
7 comments by email, I can totally handle August
8 28th. But if we need to arrange a call, that is
9 a different matter.

10 CHAIR WILKERSON: Right.

11 MEMBER SHAHEEN: Because I am back in
12 D.C., then I am in Vancouver.

13 CHAIR WILKERSON: So, based on --

14 MEMBER SHAHEEN: If we can agree to do
15 the exchange and the documents, editing documents
16 by email, I think I could do that.

17 CHAIR WILKERSON: Okay, anybody else?
18 Ginger, do you feel okay with that? Bob, what
19 about you? Do you feel okay about September 28th
20 if we use -- August 28th, I'm sorry.

21 MEMBER DENARO: Yes, I'm going to do
22 the changes on the airplane on the way back. I'll
23 send it out. I don't think we are going to have

1 a meeting. Like Susan said, I don't think that is
2 practical but hopefully -- well, we will just set
3 a deadline. If people comment back, that's great.
4 If not, you use my words.

5 CHAIR WILKERSON: Okay. So, that
6 would be -- as long as there is consensus.

7 MEMBER DENARO: Yes, that's true.

8 CHAIR WILKERSON: So, that would give
9 us August 28th that I would take all of them. And
10 then I will put them in order and format them, dot
11 i's, cross t's, and then send that to the full
12 committee the week of September 3rd.

13 Okay and then that would give everyone
14 an opportunity to get comments from the full
15 committee by September 11th. That would give you
16 a date. By then, you probably won't have a whole
17 lot of edits, unless you have got some new ideas.
18 But, that would be September 11th.

19 And then another seven days to make any
20 final edits, based on those edits, September 18th.
21 And then what I would do is circulate a final final,
22 meaning everybody eyeball this, make sure there
23 weren't any glaring edits to be circulated to

1 Stephen Glasscock by September 25th or no later
2 than the end of September. Does that make sense?

3 MEMBER DENARO: So, wouldn't you say
4 that after September 11th, we are going to have the
5 final draft to correct --

6 CHAIR WILKERSON: So comments will
7 come from the full committee September 11th.

8 MEMBER DENARO: Right.

9 CHAIR WILKERSON: So, it would take a
10 week to make sure I got everybody's comments, from
11 the whole team, and then circulate that back out
12 and say are your edits in here. Are there any last
13 minute changes? Maybe get a few people to just
14 read it back, eyeball it, to take a deep dive on
15 it one last time before it would be circulated to
16 Stephen. Is that fair?

17 And if anyone wants to have a greater
18 role in that editorial process, I welcome.

19 MEMBER GOODIN: I think the only
20 question I had is the format. I think to make it
21 easy for you, that the subcommittee should have a
22 similar format in the way that they --

23 MEMBER SHAHEEN: I followed Bob's.

1 CHAIR WILKERSON: I think we agreed
2 that we sort of follow the data recommendation.

3 MEMBER SHAHEEN: So, I just looked at
4 how he did it.

5 CHAIR WILKERSON: So, and the gist is
6 that you have a short summary paragraph before your
7 recommendation that would justify the
8 recommendation. Sort of short and succinct and
9 factual. And then there would be a --

10 MEMBER SHAHEEN: She is on a
11 subcommittee. So, you will see mine.

12 CHAIR WILKERSON: So, then there will
13 be a recommendation. And then we will number them
14 all or not have them numbered or whatever. We will
15 make sure that the font and everything looks
16 consistent.

17 MEMBER GOODIN: Okay.

18 CHAIR WILKERSON: Is that fair?

19 MEMBER GOODIN: Yes.

20 CHAIR WILKERSON: So, do we have
21 consensus that this is our time frame? There is
22 some room to breathe. So, if we need to move a
23 little longer or if some people are a little late,

1 we will try -- these are the target dates that we
2 will look to and we will circulate to the team. And
3 we will make sure that those folks who are here are
4 well aware of that.

5 And then I will lean on the subcommittee
6 leaders to kind of double check to make sure we have
7 made all their edits.

8 MEMBER MCCORMICK: And if there is one
9 of them that you can't get the consensus on, we can
10 push that to the next session.

11 CHAIR WILKERSON: Okay.

12 MEMBER MCCORMICK: There is no reason
13 -- I mean if we can't get a consensus and it doesn't
14 look like it is going to make it, it is not abandon
15 and we just move it to the next session.

16 CHAIR WILKERSON: Right. Okay, so that
17 is the time line.

18 John, do you want me to reiterate what
19 we proposed?

20 MEMBER BERG: I'm Roger.

21 CHAIR WILKERSON: Roger. I'm sorry.
22 Sorry about that.

23 MEMBER BERG: That's Scott.

1 MEMBER MCCORMICK: Do you want to let
2 Roger know what you signed him up for?

3 CHAIR WILKERSON: See, you switched
4 names. Right?

5 So, right now we are looking at having
6 revised subcommittee drafts by the 28th. Those
7 drafts will be combined, edited, and formatted and
8 sent to the full committee the week of September
9 the third. And then they will be circulated and
10 comments will be provided to the full -- the full
11 committee will provide their comments by September
12 11th. Final edits to those, any last minute
13 tweaks, September 18th, with a final, final
14 circulated to the committee on the 23rd to be sent
15 to Stephen Glasscock before the end of the month.

16 MEMBER BERG: Great. Can I just make
17 one --

18 CHAIR WILKERSON: Sure.

19 MEMBER BERG: -- suggestion. If
20 people make a comment, don't say I just don't like
21 the way it was written.

22 (Laughter.)

23 CHAIR WILKERSON: I agree

1 wholeheartedly. No comments, then if --

2 MEMBER MCCORMICK: Yes, I prefer to see
3 comments redlined, so I know what you actually
4 changed.

5 CHAIR WILKERSON: We will try to do
6 that as best we can. I agree. I'm sure that would
7 have come out at some point.

8 MEMBER MCCORMICK: You don't find that
9 helpful when somebody just says I don't like the
10 way it is worded?

11 MEMBER BERG: Oh, of course it is
12 helpful.

13 (Laughter.)

14 CHAIR WILKERSON: So, the other thing
15 is I know we have until February, I guess, for this
16 to be submitted to Congress.

17 Do you have any comments about how that
18 process will work?

19 MR. GLASSCOCK: When you give it to me,
20 you are done.

21 CHAIR WILKERSON: Okay.

22 MR. GLASSCOCK: So, I take the -- I make
23 it -- turn it into the report to Congress. I won't

1 give you the chances of it in there on time if you
2 can give it to me September 25th but we will see.

3 Because in the JPO, we all concur. We
4 all get together and concur or not concur,
5 whatever. And then it goes up to the Secretary's
6 office and there is five different offices that
7 review it and then it also goes out to OMB. And
8 that is usually the hang-up, when it gets out. I
9 mean if the building is not slow enough, sending
10 it to OMB is the kiss of death.

11 MEMBER MCCORMICK: And just in
12 general, then, subsequent to this, what is the
13 timing for the next year?

14 CHAIR WILKERSON: So, we have -- no, go
15 ahead.

16 The only other -- we have a third, final
17 advice memo due in June of 2016.

18 MR. GLASSCOCK: Your term expires in
19 June.

20 MEMBER MCCORMICK: In June of 2016.
21 That is the date I was looking for.

22 CHAIR WILKERSON: And then there will
23 be another February 2017.

1 MR. GLASSCOCK: Now that that comes up,
2 you are going to be hearing from me shortly about
3 the next meeting.

4 CHAIR WILKERSON: Okay.

5 MR. GLASSCOCK: Because it takes nine
6 months to get the committee appointed. The
7 reports to Congress February 1, 2015 was the first
8 one in the five years I have been doing this that
9 it got there on time.

10 CHAIR WILKERSON: Okay.

11 MEMBER MCCORMICK: So, you got a raise.

12 MR. GLASSCOCK: One out of five.

13 CHAIR WILKERSON: So, is there anything
14 else we should be doing in-between that? I know
15 that there were other topics that we have tabled.

16 MR. GLASSCOCK: You can -- I mean
17 because you are going to meet once, twice, three
18 times between now and June before your term ends.
19 So, you can start thinking about your next set of
20 recommendations.

21 MEMBER MCCORMICK: Yes, that is what I
22 kind of wanted to do, our last item.

23 CHAIR WILKERSON: Okay, we are at that

1 point. So, I just wanted to make sure that
2 everybody was very clear about the process. You
3 should have that 2014 to 2017 time line that was
4 provided. I think I put it in the email as well.

5 **NEXT STEPS**

6 So, I think for all intents and purposes
7 we are now on track and know what our marching
8 orders are. And then goal here was just to have
9 an opportunity to talk about next steps or other
10 topics that we would like to raise in-between --
11 in preparation for the next meeting that we would
12 have.

13 So, I think, Scott, you were going to
14 make one recommendation.

15 MEMBER MCCORMICK: Well, we have got
16 one. We are going to do the scenario planning for
17 the next one.

18 MEMBER GOODIN: Will the Connected
19 Vehicle Pilot Projects be announced before our next
20 meeting?

21 MR. GLASSCOCK: Well, before your next
22 meeting? Yes, I think I can say that.

23 MEMBER GOODIN: So, I was just

1 wondering like hearing a presentation on those.

2 MR. SHEEHAN: I think that is
3 reasonable. And even any additional items that we
4 haven't been able to provide in presentations,
5 especially since now we finally have some task
6 orders starting, so we should have some products
7 and memos prepared. So, I think that is probably
8 really reasonable.

9 MR. GLASSCOCK: That announcement is
10 coming very soon. It has got a little hiccup but
11 it is coming soon.

12 MEMBER GOODIN: So maybe by --

13 MR. SHEEHAN: And hopefully you'll
14 work with NHTSA as well.

15 CHAIR WILKERSON: Yes.
16 Unfortunately, we tried to get a presentation for
17 this one but because of the offsite and some other
18 it was very difficult to work in. So, we tried but
19 we will make sure that that is on the list.

20 MEMBER ALBERT: You know much of what
21 -- and I have been on this committee I think with
22 Bob like four or five times. Much of what we talk
23 about is predominately the application of

1 technology and how it evolves and everything. But
2 the thing we never talk about is how is technology
3 changing the institutions. And I am wondering if
4 we should have or if we have dead time in-between
5 or if we have another meeting coming up, shouldn't
6 we be talking about does JPO have any role with
7 somehow accelerating or adapting institutions who
8 are deploying these things, rather than just the
9 things themselves?

10 I thought we had a great presentation
11 some while back from Cisco who talked about if we
12 did go with connected vehicle and they were tied
13 to pricing, how that would change financial
14 institutions, or auto insurance, or DMV and I
15 thought it was just fascinating. And then it just
16 kind of got dropped. And I am just wondering if
17 that could be a role for this group to have a
18 conversation about changing the proverbial state
19 DOT battleship or other things that might change
20 because technology is being used in a variety of
21 ways.

22 CHAIR WILKERSON: Right, converging
23 into other sectors like the cross with the

1 telecommunication and the insurance industry and
2 health, all these other -- sort of scenario
3 planning again.

4 MEMBER DENARO: You know when it comes
5 to automation in particular, a lot of those other
6 industries are really starting to weigh in with a
7 lot of quality of thought. So, for example, when
8 you talk about insurance and automated vehicles,
9 a couple of the insurance companies have people,
10 senior people full-time assigned to be thinking
11 through this. Legal is another one, and so forth.

12 So, there is ripe opportunity out there
13 to have some experts which would get our thinking
14 a little more centered.

15 CHAIR WILKERSON: That is another one.
16 I know, for instance, going to the AAMVA meeting,
17 the Automotive Motor Vehicle Administrators
18 meeting and they are talking a lot about automation
19 because they have got to figure out how they are
20 going to do the drivers' education which is on the
21 decline in funding. So, now you have got a whole
22 other technology that could impact how people drive
23 and --

1 MEMBER DENARO: I think that is a good
2 suggestion because you know there is a lot going
3 on in this industry that is disruptive, to say the
4 least. And we are a federal advisory committee.
5 For us to call in some experts, some companies and
6 organizations that are working this area and get
7 a little more breadth knowledge would, I think, be
8 useful. Maybe kind of a focus for that might, for
9 us -- we have all been through the strategic plan
10 but maybe we want to focus on that a little bit more
11 and start looking through there and say where are
12 some areas here where maybe there are some
13 questions that we might want to get some outside
14 input and so forth. Maybe that is an exercise for
15 us.

16 CHAIR WILKERSON: And the charter does
17 provide for seminars and workshops. And to the
18 extent that you wanted to have a forum or workshop,
19 that is something we could think through.

20 MEMBER DENARO: And the charter
21 explicitly mentions reviewing the strategic plan.
22 So, you know, it is just a suggestion.

23 CHAIR WILKERSON: Okay.

1 MEMBER DENARO: The other area is we
2 seem to be focused and we are talking a lot about
3 connected vehicles, which is important and going
4 now, we know, and via the strategic plan that the
5 JPO is moving more and more into considerations of
6 automation and what might be their role and so
7 forth.

8 And I haven't heard us real explicitly
9 going into the whole automation area. So, maybe
10 coupled with a review of the strategic plan, some
11 dedicated focus on automation might be useful.

12 CHAIR WILKERSON: Okay. Any other
13 ideas, thoughts?

14 MEMBER SHAHEEN: Oh, I had a question.
15 When do we meet next, physically?

16 MR. GLASSCOCK: That's your call.

17 CHAIR WILKERSON: It is pretty open.

18 MR. GLASSCOCK: Do you find two-day
19 meetings productive or one-day? I mean I know how
20 busy everyone is. So, I don't know --

21 CHAIR WILKERSON: But that would be
22 between now and June, right?

23 MR. GLASSCOCK: Yes, I would figure we

1 would meet at least twice. It is up to you members.
2 It is your call.

3 MEMBER MCCORMICK: One day is easier.

4 MR. GLASSCOCK: Is it?

5 MEMBER DENARO: Yes, one day is easier.

6 CHAIR WILKERSON: Okay.

7 MEMBER DENARO: However, if we do have
8 some number of speakers in, that gets a little more
9 difficult to accomplish in one day.

10 MEMBER MCCORMICK: Well, if we are
11 going to do that, what I would suggest is that we
12 start later and end earlier because all of us have
13 other business and things that we need to conduct
14 to make sure that the world doesn't fall apart when
15 we are not there.

16 MR. GLASSCOCK: That's a possibility.

17 CHAIR WILKERSON: Say that again, that
18 we start later and --

19 MEMBER MCCORMICK: Start later and end
20 earlier, if we could do it over two days or at least
21 accommodate longer, a two-hour lunch so that you
22 can get some other -- like I get calls all the time
23 and I don't want to be missing this but I can't let

1 it fall through.

2 CHAIR WILKERSON: So, between now and
3 June we need to pick two days? Everybody is in
4 agreement that one day works better?

5 Okay.

6 MEMBER MCCORMICK: Well, you are going
7 to submit it February 20th?

8 CHAIR WILKERSON: February 20th, he is
9 submitting that.

10 MEMBER MCCORMICK: That might be a nice
11 time to recap.

12 MR. GLASSCOCK: No, the report to
13 Congress -- when you give me your final to me,
14 you're done and you can start for the next year.

15 CHAIR WILKERSON: We're done.

16 MEMBER MCCORMICK: Okay.

17 CHAIR WILKERSON: So, the key is to get
18 it to them early because it is going to take several
19 months. Nine months -- no, it will take a lot of
20 time. So, we can keep moving. That gives us a lot
21 of time to not have to -- moving into October or
22 November we have the time between them.

23 MR. GLASSCOCK: Because you are going

1 to have less than a year.

2 MEMBER DENARO: So, we need to have
3 George host us in the winter.

4 MEMBER MCCORMICK: Well, let's start
5 from the back end. We know we are going to need
6 one before the June date. Right?

7 CHAIR WILKERSON: I'm sorry?

8 MEMBER MCCORMICK: We know we are going
9 to need one before June.

10 CHAIR WILKERSON: Yes.

11 MEMBER DENARO: So, we back that off
12 two months. That's April, first part of April,
13 last part of March, somewhere in there.

14 MEMBER SHAHEEN: April and May are
15 really bad for me, given teaching and oral
16 examinations.

17 CHAIR WILKERSON: The last time we did
18 it in May. Right? The last one was May.

19 MEMBER SHAHEEN: Well, as long as it is
20 after I finish finals and graduation.

21 MEMBER MCCORMICK: Which is when?

22 MEMBER SHAHEEN: Usually by May 15th,
23 I 'm okay.

1 MEMBER STEUDLE: How is March?

2 MEMBER SHAHEEN: March is better.

3 CHAIR WILKERSON: Any thoughts for
4 March, April, May or just that we got some --

5 MEMBER MCCORMICK: Sheryl, I will send
6 you the calendar of events I keep, so we know who
7 might be missing.

8 CHAIR WILKERSON: Yes, we can kind of
9 get just throw out a few and maybe come up with some
10 dates and we will then go back and backtrack to see
11 if anyone has any conflicts.

12 MEMBER DENARO: My opinion is that if
13 we do one-day events, which makes sense, then we
14 might consider like at the end of March two
15 meetings.

16 I think one meeting is tough. Let's be
17 honest, we get most of our work done in this
18 meeting.

19 CHAIR WILKERSON: So, November and
20 late March or early?

21 MEMBER SHAHEEN: November is good for
22 me.

23 MEMBER MCCORMICK: Well, I have only

1 --

2 CHAIR WILKERSON: Anybody else for
3 November? Early November.

4 MEMBER MCCORMICK: I only four or five
5 weeks from now to the end of the year that I am not
6 traveling. So, November actually works well,
7 particularly if we do it on Thanksgiving.

8 CHAIR WILKERSON: So, we will look at
9 some November dates. Maybe we will do a Survey
10 Monkey or something.

11 And then what about, was it March? Did
12 you say March? Early or late March? Okay, so late
13 March.

14 Okay, well, we will come up with some
15 dates and we will look at the industry and see if
16 anybody has conflicts or dates that they know of
17 to send them. And we will try to work backwards.
18 Is that good?

19 MEMBER SHAHEEN: So, we could
20 presumably do some kind of a workshop.

21 CHAIR WILKERSON: Right, in our
22 charter --

23 MEMBER SHAHEEN: Could we have thought

1 leaders come in?

2 CHAIR WILKERSON: Yes.

3 MEMBER SHAHEEN: Like futurists?

4 CHAIR WILKERSON: We talked about
5 that.

6 MEMBER SHAHEEN: Yes, because I think
7 this goes along the lines of thinking that are there
8 gaps in the research that this committee should be
9 keen and have an eye out for?

10 MEMBER STEUDLE: So what about a March
11 meeting in California with some of the shared use
12 discussion?

13 MEMBER SHAHEEN: Oh, yes, I could
14 totally rally Google Apps and all types of people.

15 MEMBER STEUDLE: What is the shared
16 use, how does it evolve?

17 MEMBER DENARO: Typically meetings
18 outside of D.C. is tough for JPO staff.

19 MEMBER SHAHEEN: Is that true?

20 (Simultaneous speaking.)

21 CHAIR WILKERSON: Is there another
22 forum that will be a lot of what people will be going
23 to that we could tag onto?

1 MR. SHEEHAN: So do you ever mention
2 the even in Chicago, just the Shared Use Summit?

3 MEMBER SHAHEEN: Okay, so you have
4 never been there?

5 MR. SHEEHAN: No.

6 MEMBER SHAHEEN: So, there is a Shared
7 Mobility event in October in Chicago but I am not
8 involved in it.

9 MR. SHEEHAN: Okay but it is happening.
10 So, folks who are interested in --

11 MEMBER SHAHEEN: Yes, but I am
12 organizing with MIT and London School of Economics
13 an event called Disrupting Mobility in November
14 that I would be happy to have you guys join. So,
15 it includes shared mobility but it is a lot bigger.
16 So, I come up the shared use mobility series, Bob,
17 because I felt like it was a little too one-on-one
18 and I wanted to get a little bit more shared
19 mobility in the context of what is happening in the
20 world today is more my appetite.

21 So, I won't be in Chicago and I am
22 putting all my efforts into organizing this other
23 event, which is sponsored by TRV, by the way. And

1 they are pretty deeply excited about it.

2 We are going to address issues of
3 automation and smart cities and wearables, all
4 sorts of disruptive stuff.

5 CHAIR WILKERSON: So, so far we have,
6 just in light of the entrance, we have how is
7 technology impacting institutions or accelerating
8 who is going technology disruptive. You talked
9 about maybe having some other leaders or
10 visionaries come in.

11 Automation was another issue, shared
12 use.

13 Are there any other shared mobility?

14 MEMBER SHAHEEN: I would love to hear
15 from like wearables people.

16 CHAIR WILKERSON: With respect to
17 intelligent transportation?

18 MEMBER SHAHEEN: Yes. Wearables that
19 can be used to like diagnose you in the car.

20 MEMBER MCCORMICK: Actually, Ford has
21 I forget the good doctor's name but Ford has a
22 doctor working on biometrics there and I saw a
23 presentation. He gave a presentation. I thought

1 it was excellent.

2 The question is, that you always have
3 to ask yourself is, although lots of things are
4 interesting to hear about, where are we going to
5 add value to the DOT in terms of making a
6 recommendation.

7 MEMBER SHAHEEN: So, the disrupting
8 mobility event is going to be held at MIT at the
9 Media Lab. And we are having a hackathon on the
10 11th and the conference itself is the 12th and 13th.

11 MEMBER MCCORMICK: Of what month?

12 MEMBER SHAHEEN: November. So maybe
13 we can all like meet at the hackathon.

14 CHAIR WILKERSON: Roger you had some
15 comments?

16 MEMBER ALBERT: I had my hand up. It
17 seems like most of what we talk about, again, is
18 technology and infrastructure and safety issues.
19 But what we know is that if 90 percent of the crashes
20 are really due to driver psychologies and
21 drivers' error, should we not be talking about some
22 of the traffic safety culture things that
23 supplement or augment some of the technology plans?

1 MEMBER DENARO: What is traffic safety
2 culture?

3 MEMBER ALBERT: It is really kind of
4 looking at the driver but also the culture that they
5 are in. So, why do kids who are 18 years old --
6 I'm just making this example up -- driving pickup
7 trucks full of beer cans in the back? Is it the
8 individual or is it society around them and how that
9 then effects safety.

10 I know that we are doing a bunch of work
11 that would have a large pool of funds, a lot of work
12 in Europe in traffic safety. It might be another
13 area to explore --

14 CHAIR WILKERSON: Okay, I will put that
15 on here.

16 MEMBER ALBERT: -- of how technology
17 marries with understanding what is going on in the
18 drivers' heads.

19 MEMBER DENARO: Well, I will make
20 another appeal that rather than randomly select
21 something that is fun to get into, I would recommend
22 that we focus off of the strategic planning.

23 CHAIR WILKERSON: I agree. We have

1 not talked about that.

2 MEMBER DENARO: Let's find some areas
3 there that might lead to one of these things. And
4 if it is a communication thing with Cisco or some
5 Uber thing or whatever, fine. But let's launch it
6 off of the Strategic Planning.

7 CHAIR WILKERSON: So, can we commit to
8 maybe take a review of the Strategic Plan again and
9 then circulate some ideas? Would that be useful?

10 MEMBER DENARO: Yes.

11 CHAIR WILKERSON: And let's pick a date
12 and say, get all the ideas on a table and then have
13 a list and then we can circulate and prioritize by
14 email.

15 MEMBER DENARO: And so what would be
16 the question we are asking ourselves about the
17 Strategic Planning? What do you want to do, read
18 through it, find gaps and --

19 CHAIR WILKERSON: Yes, just like you
20 said, exactly.

21 MEMBER DENARO: Okay.

22 CHAIR WILKERSON: Revisit it. It is
23 part of one of our objectives. It says at a

1 minimum, the ITS PAC will provide input into the
2 development of ITS aspects of the U.S. DOT
3 Strategic Plan and review at least annually areas
4 of research being considered for funding.

5 MEMBER BERG: How big is that plan?
6 Does anyone recall?

7 CHAIR WILKERSON: We reviewed it. We
8 had a review at one of the other meetings.

9 MEMBER BERG: Sixty? Six-zero? How
10 big is the Strategic Planning because I doubt that
11 all these people have enough time to read through
12 it.

13 CHAIR WILKERSON: No, just to
14 refresh, we did look -- we discussed it in one of
15 our early meetings. We actually had a walkthrough
16 and then we had presentations.

17 MEMBER MCCORMICK: I think if you are
18 doing a gap analysis on it, all you really have to
19 read is the table of contents.

20 CHAIR WILKERSON: I have it here. It
21 is 32 pages, with figures and conclusion.

22 MEMBER BERG: Just 32 pages?

23 CHAIR WILKERSON: That's what I have
here.

1 (Simultaneous speaking.)

2 CHAIR WILKERSON: So, I'm happy to
3 circulate that again or just put it on the website.
4 So, we can take a look at that.

5 MEMBER MCCORMICK: Actually, just send
6 us a link. You don't have to resend the document.

7 CHAIR WILKERSON: Any other? So, we
8 will have some thoughts on that. We will come up
9 with a date maybe by, let's say October, no later
10 than, maybe the end of September have people --
11 well, no. Since we have got this going on, maybe
12 middle of -- we do a meeting in November, that is
13 going to be tough to try to get feedback.

14 MEMBER MCCORMICK: Well, if we request
15 it by mid-October, that gives us two to three weeks
16 to put together a document to review at the meeting.

17 MR. GLASSCOCK: So, the PDF version --

18 CHAIR WILKERSON: Well, I was just
19 saying if we wanted to meet somewhere and have
20 people come in and talk about some of those subject
21 areas, it might be a little tight but we can do it.

22 MR. GLASSCOCK: The PDF version of the
23 plan is not 96 pages.

1 CHAIR WILKERSON: Okay. Well, this is

2 --

3 (Simultaneous speaking.)

4 CHAIR WILKERSON: So, any other
5 thoughts?

6 So, we are pretty early.

7 MEMBER MCCORMICK: You know I have a
8 thought. I don't know if it is worth pursuing or
9 not but as we reach a point, let's make one of our
10 own potentially fatal assumptions is that we get
11 a rulemaking and going down the path to deploying,
12 is there something that the government will have
13 or can collect that provides feedback to everyone,
14 in terms of the effectiveness, the savings, or
15 whatever? To my knowledge, there is not a
16 mechanism to do that. You know because all of the
17 stuff that the DOT puts out, puts out on our website
18 and if you spend long enough, you can find it.

19 But it is not necessarily something
20 that goes out to the public. And therefore, what
21 I am saying is it is not necessarily at an easily
22 digestible form. And part of what drives adoption
23 is people's understanding of the value

1 proposition, whether that is just more safety or
2 whatever. You sell a car that has the capability
3 that people want and I know we don't like talking
4 about technology but 62 percent of the people won't
5 buy a car if it doesn't have the technology they
6 want in there right now. That is a huge change.

7 So, driving adoption, sometimes you
8 have got to create a poll for this. And the same
9 as it creates a poll for the automakers that
10 somebody might want to put in Wi-Fi hotspot in their
11 car or something else, having this capability in
12 Kirk's state infrastructure finds a way to get in
13 the budget.

14 So, I am just wondering if there is not
15 a PR function that we should recommend, as we move
16 forward.

17 CHAIR WILKERSON: So, in the last
18 recommendations you had the Outreach
19 Communications and Promotion Plan. Is that
20 similar to what you are recommending?

21 MEMBER MCCORMICK: I wasn't on that
22 committee and I don't recall --

23 CHAIR WILKERSON: I can share that with

1 you but there was one. And the recommendation was
2 that -- there were two. And it said that the ITS
3 JPO should engage communication professionals and
4 develop an overarching communication strategy and
5 aggressively launch an effective public
6 communications campaign and it should create a
7 comprehensive document on safety benefits,
8 particularly as new technologies are being
9 introduced and improve the safety of vehicles and
10 that NHTSA cite such a document.

11 MEMBER MCCORMICK: And did they agree
12 with doing that?

13 MR. GLASSCOCK: Yes, do it. We are
14 having a major revamp of our communications and our
15 website is being redeveloped.

16 MEMBER MCCORMICK: Maybe that would be
17 useful is to have a report out based on the
18 recommendations that were accepted or concurred
19 with back from DOT of where we are with those.

20 MR. SHEEHAN: Are you familiar with the
21 work that are being developed, stood up there the
22 V2I Deployment Coalition that we are supporting?

23 MEMBER MCCORMICK: Yes.

1 MR. SHEEHAN: Yes. Everyone else?
2 You should know then maybe that is the thing because
3 in there they work with just one of these guides.
4 And they called yesterday, I think, or the day
5 before, looking at those issues. So, it is
6 connected to that. My point being --

7 MEMBER MCCORMICK: Yes, but that is not
8 the public. I'm talking about the public. I'm
9 not talking about the practitioners. I'm not
10 talking about John's staff. I'm talking about the
11 people that truly drive adoption, the people that
12 create the impetus behind why we would want to put
13 something up in our infrastructure or carve-out.

14 MR. SHEEHAN: Okay. We'll bring that
15 back to them. I mean they are tasked with
16 developing the recommendations, not directly left
17 to us but we will be, I think, using --

18 MEMBER MCCORMICK: And I don't mean
19 giving ITS America a contract to go do a pony show
20 on it. I mean there ought to be this communication
21 that is going on.

22 MEMBER WEBB: I sit on that committee.

23 CHAIR WILKERSON: Okay. I will take a

1 note that one of the recommendations is that we get
2 the ITS JPO report back on the recommendations and
3 accepted by the date. So, that is some oversight
4 and due diligence. That is not difficult.

5 MEMBER MCCORMICK: Just so we know
6 where they are going.

7 MEMBER WEBB: Let me just read you this
8 because we just talked about this subcommittee.
9 And the outreach committee for V2I is we have three
10 tasks. Provide input to U.S. DOT on version 14 of
11 the deployment guidance. Number two, the more key
12 one, identify outreach making media to increase
13 awareness and support of V2I among transportation
14 agencies.

15 So, again, here is trying to reach out
16 to the guys who will be spending the money and
17 provide input to U.S. DOT on additional content for
18 the next version of deployment guidance.

19 So, those were the three tasks of that
20 subcommittee.

21 CHAIR WILKERSON: Very good. Any
22 other suggestions? I guess we could circulate and
23 I will send something out. I will come back and

1 summarize this and then see if there is any other
2 consensus and then we will go from there to figure
3 out what an agenda might look like for the next
4 meeting.

5 And in the meantime if you have
6 potential companies or thought leaders or others
7 that you think we should -- futurists or whatever
8 that is related to this, I am happy to discuss it.

9 MEMBER SHAHEEN: Can we offer
10 honorariums to anybody? You know, give them
11 \$1,000 to --

12 CHAIR WILKERSON: I don't think so.

13 MEMBER SHAHEEN: No, okay.

14 MEMBER MCCORMICK: Can we charge them
15 to speak to us?

16 MEMBER SHAHEEN: Sometimes futurists
17 will cost money.

18 CHAIR WILKERSON: There are some I
19 could think of that could come.

20 MEMBER SHAHEEN: Cool.

21 CHAIR WILKERSON: Not in this space but
22 are trendsetters in other areas.

23 MEMBER SHAHEEN: I think some outside

1 people would be interesting to hear from.

2 MEMBER WEBB: Since we are talking
3 technology, would we be able to invest some of our
4 time if we did some sort of web conferencing and
5 had a speaker talk to us for a half hour during a
6 noontime session, whether it is Central Time, or
7 Pacific Time, or Eastern Time, or whatever, about
8 the topic to just sort of generate thoughts and
9 issues and so forth like that that we would take
10 and say this one is going to be on this issue, and
11 two weeks' later, there is going to be another one
12 talking about this issue.

13 Do they have the capability of
14 broadcasting, doing a conference, webinar type of
15 stuff? I'm just trying to think about a good use
16 of our time to try and get that pump primed as far
17 as trying to think about areas of interest or
18 whatever.

19 So, it is just the best way to make our
20 time instead of having to meet face-to-face and
21 bring everybody in, it is like okay, get somebody
22 to devote a half hour. Most of the time, they could
23 probably talk off the top of their head without

1 having to prepare anything specific or whatever to
2 give us that type of --

3 MEMBER SHAHEEN: Well and if they don't
4 have to travel.

5 MEMBER WEBB: That is the other issue.

6 CHAIR WILKERSON: Okay, so we will
7 explore how feasible that is. Jeff?

8 MR. SPENCER: I just was looking at the
9 calendar for next year. We mentioned March on the
10 West Coast. March 16th and 17th is the STEM Summit
11 in Los Angeles. That might be a good co-location
12 for something like that because those on the
13 education issues.

14 Just an opportunity I thought I would
15 mention.

16 CHAIR WILKERSON: Any other comments?
17 Well, I don't see that there is anything else on
18 the agenda, unless somebody else has another
19 recommendation, we can adjourn early.

20 (Simultaneous speaking.)

21 CHAIR WILKERSON: George has a --

22 MEMBER WEBB: Again, we are talking out
23 private industry. And also just being able to see

1 this is the Deployment Coalition, the three major
2 groups that got together or whatever. This is one
3 of the subcommittees. And you can just see the
4 direction that they were heading as far as trying
5 to get out there, as far as trying to -- they had
6 sent out a set of slides that were there when it
7 was part of their discussions. Today, they were
8 having a teleconference to discuss doing that work.

9 I just thought it might be interesting
10 just to show up for five minutes or whatever.

11 (Simultaneous speaking.)

12 MEMBER ALBERT: Can I say one thing?

13 CHAIR WILKERSON: Sure.

14 MEMBER ALBERT: After all the years of
15 being on this committee, and a number of times, this
16 is the first meeting I didn't just have to be the
17 rural guy every five minutes.

18 (Laughter.)

19 MEMBER ALBERT: So, thank you all.
20 Thank you for bringing things up. And every time
21 I brought up rural, Bob would chuckle.

22 MEMBER DENARO: I am chuckling right
23 now.

1 MEMBER ALBERT: Exactly.

2 CHAIR WILKERSON: Those of us from
3 telecom days know and feel your pain.

4 Thank you. Thank you for your
5 participation. Safe travels.

6 MEMBER DENARO: Go back to your rural
7 area.

8 (Laughter.)

9 MR. FEHR: Sheryl, I was going to
10 follow-up on this comment about the psychology of
11 the situation.

12 CHAIR WILKERSON: Right, you were
13 standing up. I'm sorry.

14 MR. FEHR: Well it is becoming very
15 clear to me that the make or break thing of all of
16 the stuff that we are working on is not just
17 communication technology, it is the human
18 interface. And nobody seems to be working very
19 much on the human interface.

20 MEMBER RAJKUMAR: You mean human
21 factors or the interface itself?

22 MEMBER MCCORMICK: The interface
23 itself.

1 MR. FEHR: What got me thinking about
2 that is what happened to me last night. That woman
3 hitting me in the back of the car was almost
4 inevitable, given the circumstances. It was on a
5 three-lane street at a traffic light, middle lane,
6 two cars ahead of me, nobody behind me. The light
7 changes to green. The lanes on either side of me
8 start moving. The car ahead of me -- the car at
9 the beginning of the queue moves but the car in
10 front of me doesn't.

11 If you see all of that movement out of
12 your peripheral vision, if you are the car behind
13 me, you are going to naturally start to move. And
14 it takes extraordinary perception and
15 concentration on the driving task to actually avoid
16 that accident. It was almost inevitable she was
17 going to run into me.

18 MEMBER KISSINGER: We are working with
19 on it right now, specifically what is the impact
20 on drivers as we move towards automated vehicles,
21 including all the driver assisted technologies and
22 the big -- it will probably be a multimodal effort.

23 CHAIR WILKERSON: And it is linked to

1 education, too, because with that technology,
2 there is no more looking over your shoulder.

3 MR. FEHR: But you know, coming up with
4 the affected -- because the data could have been
5 there. My car was transmitting basic safety
6 messages. It is probably the only one in Virginia
7 that is doing that. But if she could have an
8 effective human interface in her vehicle, she would
9 have still done it. Because it is very human
10 nature to see the herd moving.

11 MEMBER BERG: Especially if you are
12 looking at your phone.

13 **PRESENTATION ON V2I DEPLOYMENT COALITION**
14 **TWG 4 MONTHLY MEETING**

15 CHAIR WILKERSON: Exactly. Okay,
16 George, you have the floor.

17 MEMBER WEBB: Okay, I haven't seen this
18 so we are just going to blow through it very, very
19 quickly or whatever. This was an hour and a half
20 conference call I had scheduled for yesterday or
21 whatever. So, this subcommittee was working in
22 these particular areas and had certain things that
23 they were trying to get done.

1 So, they are talking about reviewing
2 the deployment guidance issued by U.S. DOT, trying
3 to comment back to U.S. DOT. I think that was a
4 significant document. So, let's go to the next
5 one.

6 Elizabeth is the chair of the
7 committee, Elizabeth Birriel with the Department
8 of Transportation and this is just some of the
9 things as far as their schedule, just like we were
10 doing, as far as how to get the committee going to
11 try to make things happen. Next.

12 This is what I just read, that you can
13 get a sense of the various things of the issues that
14 were identified. So, I will just look on the
15 left-hand side. We have got VX and a couple means
16 of communications, et cetera, et cetera.

17 The focus that my subcommittee was on
18 was the V2I outreach. And gain, you will see some
19 of the more interesting things. Some of them are
20 targeted at Kirk and others like him you will see
21 in a second.

22 So, the focus was okay, so here is a
23 bunch of us interested in ITS but you know how do

1 we get up to that people above the decisionmaking
2 at the various agencies and Michigan is a little
3 bit different from the rest of the states as far
4 as doing this. Go ahead.

5 These are, I think it ends at 15 as far
6 as the various issues but these are the focus areas
7 that this big, major group is now working on. So
8 they have carved up and had various subcommittees
9 take the various issues and so forth like that. Go
10 ahead.

11 It'll just take a second to do this.

12 MEMBER SHAHEEN: Those are crazy
13 PowerPoints. That wouldn't fly in a lecture hall,
14 I'll tell you.

15 MEMBER WEBB: No, this is just doing it
16 on the computer.

17 CHAIR WILKERSON: So that is pretty
18 much the same that we talked about.

19 MEMBER WEBB: Okay, next. So, this
20 one is transportation agency. Next.

21 Third bullet, gaps. Okay. So, the
22 first bullet point was the one I was talking about
23 as far as the committee members said, we have got

1 to be able to convince the executive agency
2 officials as to why they need to be interested in
3 connected vehicles and V2I. So, it is like what
4 can be quipped together to get the attention of the
5 executive agency official. For the most part,
6 there is a lot of DOT people on this. So, they are
7 thinking about their individual secretaries as far
8 as trying to do that.

9 MEMBER DENARO: What's the third
10 bullet mean on business case? That is for whom?

11 MEMBER WEBB: Again, we are back to
12 talking about when you think about the correct
13 level of trying to get to your State's Secretary
14 of Transportation to say this is why we need to take
15 some of your existing money with all these other
16 competing needs and put it into ITS. As I said,
17 this may be a little bit different with this
18 emphasis on ITS but if you are out there talking
19 to Georgia or you are talking to Texas or Florida
20 or whatever and you are trying to understand who
21 to go after.

22 MEMBER MCCORMICK: Well, that material
23 is useful for the 43,000 counties we have in the

1 United States or the major metropolitan areas.

2 MEMBER WEBB: All right, so this is not
3 just for one but it is to get the message out there.
4 Okay, go ahead.

5 Okay?

6 CHAIR WILKERSON: Uh-huh.

7 MEMBER WEBB: So, we are talking about
8 trying to put together individual small -- Scott,
9 you were mentioning, it is out there but trying to
10 find it and so forth. So, I think that the gist
11 of the committee was well, what is out there and
12 how can we go through to make it a fact sheet, not
13 a 30-page report or whatever. Okay?

14 MEMBER MCCORMICK: V2I DC business
15 plan? The DC stands for?

16 MEMBER WEBB: Deployment Coalition.

17 MEMBER MCCORMICK: Thank you.

18 MEMBER WEBB: So, each of the
19 subcommittee chairs is part of the executive
20 committee. So, they represent them as a work
21 group. Okay? So, that was it. Just to give you
22 an idea of that outreach as far as the important
23 component in this. Like I said, I sit on that

1 particular committee. I have no idea what the
2 final discussion or wording was on that but it is
3 what it is. Okay, I think that is it. Thank you.

4 CHAIR WILKERSON: Great, thank you.
5 Thank you for wording the document, Stephen. You
6 have already forwarded the Strategic Plan back
7 already?

8 MR. GLASSCOCK: I did.

9 CHAIR WILKERSON: Thank you so much.
10 And another document for SEE?

11 MEMBER WEBB: That was the one that
12 Scott was mentioning and I will probably just send
13 it to you.

14 **ADJOURN**

15 CHAIR WILKERSON: Okay, great. All
16 right, anyone else have any comments? Otherwise,
17 we will communicate by email and the meeting is
18 adjourned.

19 MR. GLASSCOCK: Travel safe, everyone.

20 CHAIR WILKERSON: Thank you.

21 (Whereupon, the above-entitled matter
22 went off the record at 3:04 p.m.)