MEMORANDUM

To:	Mike O'Dowd Project Manager	Date:	September 20, 2017
From:	Hannah Brockhaus Howard Stein Hudson	HSH Project No.:	2013061.14
Subject:	MassDOT Allston Interchange Improvements Project Task Force Workshop Meeting Meeting Notes of February 16, 2017		

Overview

On February 16, 2017 members of the Allston I-90 Interchange Improvement Project team and MassDOT staff associated with the job held a task force workshop to discuss refinements to the three alternatives being advanced into the Draft Environmental Impact Report (DEIR). The task force is composed of local residents, business owners, transportation, and green space advocates, as well as representatives of local, state, and federal governments.[1] The purpose of the task force is, through the application of its members' in-depth knowledge, to assist and advise MassDOT in determining a single preferred alternative to be selected by the Secretary of Transportation for documentation in a joint Environmental Assessment and Environmental Impact Report (EIR) document.

Mike. O'Dowd, Project Manager, opened the meeting with welcoming remarks and a review of public outreach and work with the Task Force since the last Public Information Meeting on December 8, 2016, including: a briefing to the Cambridgeport Neighborhood Association; meetings with Transportation Secretary Stephanie Pollack; and meetings with A Better City (ABC) and Ari Ofsevit to review their proposed alternatives as well as refinements that MassDOT would recommend as all three alternatives are advanced into the Draft Environmental Impact Report (DEIR). Both ABC and Mr. Ofsevit declined to accept MassDOT refinements of their proposals, preferring to have them entered into the DEIR process as they had previously submitted to a 2015 feasibility study performed by HNTB—in the case of the ABC proposal, submitted with some modifications from that original study made by the proponent, as opposed to MassDOT.

[1] A listing of Task Force membership can be found at: http://www.massdot.state.ma.us/highway/HighlightedProjects/AllstonI90InterchangeImprovementProject/TaskForceMembers.aspx

Following Mr. O'Dowd's opening remarks, Jim. Keller, TetraTech, provided an overview of refinements for each of the three alternatives—referred to as 'highway-viaduct', 'rail-viaduct', and 'at-grade'—with anticipated impacts resulting from generating a consistent and minimal-acceptable cross-section throughout the project.

Tom Nally, A Better City, introduced Glen Berkowitz and together provided an overview of refinements to the at-grade concept, including raising Soldiers Field Road to contain wheel noise from the Turnpike and continuing to assume "minimal shoulders" in the throat section. Mr. Nally asserted that ABC believes at at-grade option will be simpler to construct, including phasing and traffic management, as well as preferable from the perspective of noise.

Mr. Berkowitz reported on conversations with Boston University (BU) regarding the possibility of using some portion of BU property on the in-land side at Buick Street in order to gain more space outside of the river. ABC also continues to explore cantilevering the Paul Dudley White Path over existing riprap to avoid infringing directly into or over the waterway. In combination with making only 'slight improvements' to I-90 instead of the MassDOT-recommended improvements, ABC believes that its at-grade alternative fits in that expanded right-of-way without impacting the river.

Mr. Berkowitz presented an example of a highway reconstruction project in Milwaukee, Wisconsin, in which a section of substandard lane- and shoulder-width was selected as an alternative within a Federal Highway Administration (FHWA) Record of Decision, arguing that since it has been approved elsewhere, it could be approved for this project.[2] He further argued that sections of substandard lanes and shoulders exist elsewhere on the Mass Pike, and that MassDOT's stated position that improvements were required at this location is therefore unjustifiable.

Using the Milwaukee example, Mr. Berkowitz asserted that the cost of building an at-grade alternative on this project would be less than a third of building a viaduct. It is worth noting that this claim cannot yet be evaluated by the project team, as cost estimates have not yet been prepared.

Following Mr. Berkowitz's presentation, Mr. Ofsevit gave a brief update on refinements he is considering to address potential impacts that have been identified under his proposal, including lidding the viaduct to reduce precipitation hitting the roadway to address stormwater, snow clearance, and drainage issues; and adding an elevated rain-garden on the rail viaduct. Regarding rail, he shared with the group that he is exploring ideas for operational and storage changes at the

[2] Further research by the project team, following this meeting, has shown that there are limits to the comparability of these two situations; among them, the section containing 11' lanes in Milwaukee is bookended by standard sections on both ends, and is itself approximately 30' in length—significantly less than would be required on this project. The majority of the remaining space is used for transitioning from standard to substandard and back. Further, in the eastbound direction, no standard shoulder exists beyond the project limits to offset the substandard section.

rail-yard—including switching the storage and station spaces—and refinements to a crossover that was proposed to accommodate the Houghton Chemical spur (no longer necessary given Mr. Houghton's commitment to relocate).

Mark Shamon gave an overview of refinements regarding the station and rail yard. Refinements to that concept include studying a three-platform station system to facilitate easier cross-platform transfers as well as 'ground-level' boarding particularly from Malvern or Babcock Streets to the south; thereby reducing the need for stair-and-elevator systems to only the center platform. This would allow for reduced maintenance and security costs, which the MBTA has requested. This plan would not eliminate the two points of north-south connectivity through the station area, which could still be provided with dedicated ramps as well as the platform-crossing stair system.

Questions and discussion were interspersed throughout the presentations, but mainly concentrated at the end. Areas of conversation focused mainly on process and details surrounding the DEIR and Design Exception Report; the DEIR timeline, including a request for further Task Force meetings to discuss contents of the draft text before filing; and its contents, including ongoing conversations on the language used to assess the various throat alternatives, with Task Force members again asserting that the structure of the report frames assessments in favor of the highway-viaduct alternative and the project team reminding the group that the report will include substandard shoulders in the form of the at-grade and rail-viaduct alternatives, while also requiring demonstration of the need for and benefit of shoulders as presented in the highway-viaduct option.

Other matters of discussion included ongoing conversations of the various possibilities for decking over portions of each of the throat-section alternatives; clarifications regarding the presented alternatives for the rail-yard, focused especially on their implications for rail-yard access and ramp configurations for north/south bicycle and pedestrian access through West Station; and some brief discussion of impacts to the river beyond physical intrusion, as well as the traffic, resiliency, and vulnerability models and the use of the roadway as part of critical-infrastructure evacuation routes.

Detailed meeting minutes including all subjects of conversation follow this overview.

Agenda

I. Welcome & Opening Remarks
II. Review of Alternatives Refinements (TetraTech)
III. Update on At-Grade Alternative (ABC)
IV. Update on Rail-Viaduct Alternative (Ari Ofsevit)

V. Update on Rail-Yard and Station Refinements (TetraTech)

Detailed Meeting Minutes[3]

Welcome & Opening Remarks

C: Mike O'Dowd: Welcome all, good to see you here. We're going to give you a quick update on what we've been doing since December 8, where I saw most of you last, over at the Jackson Mann. Since then, we've also made a presentation to the public in Cambridge on January 19, as requested by the Cambridgeport Neighborhood Association. Following that presentation, we received a lot of comments; much of what we heard was similar to what we'd already heard, but with many new comments as well. Those comments led the Secretary to direct me to convene the Task Force, and for her to want to meet with many of you one-on-one; that was just a couple of weeks ago.

Since then we have had meetings with those proposing the concepts other than the MassDOT alternative—what many have referred to as the "ABC concept" (A Better City) and the "Amateur Planner concept" by Ari Ofsevit. We have since coined them: the 'rail-at-grade, highway-at-grade'; the 'rail viaduct, highway-at-grade'; and the 'highway viaduct, rail-at-grade'. This is just an attempt to identify each of these by their differences as we move the concepts into the Draft Environmental Impact Report (DEIR) without identifying them specifically as being by their authors.

Tuesday afternoon, we sat down with Ari to discuss the plan that he originally conceived; and yesterday we sat down with ABC to discuss the concept that they had originally conceived. Both of these are consistent with the independent feasibility assessment conducted by HNTB back in 2015. Moving forward, one of the things the Secretary mentioned in her remarks two weeks ago is the fact that MassDOT was going to make some refinements to the concepts that were developed by the advocates; she is adamant that a shoulder needs to be provided, and she feels that any shoulder needs to be acceptable from the MassDOT and Federal Highway perspective, in terms of the long-term operations and maintenance of the project's primary focus-point: I-90.

Ed and his team at TetraTech, over the last few weeks, have identified how each concept would carry a consistent minimum acceptable cross-section across the project, for the three concepts. We were asked over the last several years, to try to identify a way to reduce the overall cross-section of I-90 with an elevated viaduct similar to what's out there today, which we were able to

[3] Herein "C" stands for comment, "Q" for question and "A" for answer. For a list of attendees, please see Appendix 1. For copies of meeting flipcharts, please see Appendix 2.

do. We applied those same narrowed cross-section dimensions to the advocate proposals to carry a consistent cross-section, which in turn frequently went wider than the original concepts. In the Amateur Planner concept, there was additional encroachment into the river of about 20'—Jim and Chris will go through these in detail. For the ABC plan, there was additional encroachment into the river of about 50', maintaining a consistent cross-section.

The Secretary was clear that she is committed to advancing all three concepts forward into the DEIR—as she has said throughout this process. But she also asked of the advocates whether they were prepared to consider accepting MassDOT refinements of their proposals for the DEIR; she wanted responses for that question to come from the authors of those proposals, which is what prompted the meetings with Ari and ABC to discuss individually whether or not they would want to make any modifications given the suggestions put forth by MassDOT, before moving forward into the DEIR.

What I can say today—and there's a lot more detail to come—is that after speaking with Ari, he appreciated the fact that we took a look at it, including the additional widening and encroachment into the river, and it was his preference that we continue to advance his original concept as was evaluated by HNTB. So, the original concept as he arrived at it will continue to be advanced.

With regards to the ABC concept, we met with Tom and Glen yesterday, and both of them feel that they are prepared to proceed with a slight modification to their original concept, which they will be prepared to show you today. It is about 3' wider than what we had shown in the past. They are still trying to constrain all of their efforts so that there is minimal or no encroachment into the river. So, as it stands, both of these concepts, as originally conceived back in 2014, will be advanced through the DEIR; we will identify and evaluate all environmental impacts associated with those, and provide comments on all three—including the modifications made by MassDOT to its own concept.

Jim is prepared to go through all three in detail; I'll turn it over to him.

Review of Alternatives Refinements

C: Jim Keller (JK): We have heard, loud and clear, over the past several meetings, the questions regarding the refinements and how they've been applied to the advocate proposals. We have graphics colored up now, that show some of the recent developments that have been discussed at Task Force and public meetings; including the removal of the Houghton Chemical spur and other changes that allow for refinements with all three options; however, they have more impact on

some than others. I will refer to them today as 'highway-viaduct', 'rail-viaduct', and 'at-grade', for simplicity and to make things easier for discussion.

We've got two displays going, and will do our best to zoom in and show you everything on both. There are colored graphics of each alternative. Each has different variations within the throat; these are printed out over there if you want to take a close look. I'll start from the west and move east for each, and walk you through developments. We've talked about some of the coordination between MassDOT and Harvard looking at the rail-yard; about the removal of the Houghton spur; and the shoulder-width cross-sections that went out yesterday.

We'll get into the cross-sections but I want to focus now on how the refinements affected all three alternatives—mainly the rail-viaduct and the at-grade, because with the flexibility that's allowed with the highway-viaduct, even with the removal of the Houghton spur and some of these other changes, not much has changed in the throat section in terms of the overall alignment, other than the potential reduction in layover capacity that MassDOT is considering in the yard, which would serve as temporary layover and potential future permanent layover. 14 were previously shown, with 8 depicted now. The current station being shown is a two-platform—Mark Shamon from VHB has been looking at different alternatives; he'll go into detail on that later. Whatever option is chosen for the yard and for the platforms is essentially interchangeable between the three concepts. There would be some changes to how it all works geometrically, or on the vertical/horizontal, but those changes could be applied to all three. On the left side here you can see the refined concept; and on the right side, HNTB's original at-grade feasibility study.

First, you can see just looking at the yard that there is a reduction in the number of consists. Doing so allows I-90 to be realigned under all options. Previously the radius was about 2,600', and we're now going to 4,000'—a pretty substantial change that allows us to straighten things out. This allows Harvard's development areas to open up, and they're looking at alternatives including air rights and other scenarios for improvements to this area.

As we move to the east, we get into the territory of our discussions about access to the yard; this is where the Houghton Chemical spur is removed. The idea behind that and these developments is to remove access to this location to improve any highway at-grade in the best possible way we can. What we see is that the overall concepts work essentially the same; you can see that the rail spur that came over for Houghton on retained fill over here is no longer there. This was a substantial additional structure over the highway, which has been removed; but as far as the dramatic changes in the throat area, depending on which cross-section you look at there isn't a whole lot of impact there. There is much more impact on the at-grade option.

For all three alternatives, we've looked at the connection for bikes and pedestrians at Babcock Street, including Agannis Way as shown originally. We're now looking at Babcock being the primary concept. You could use switch-back ramps over the rail viaduct to connect you onto the viaduct towards the bridge, and touch down on the north side—with some impacts there.

For the sections that went out yesterday, there has been lots of discussion; as Mike said, we met with Ari Tuesday morning and ABC yesterday afternoon, with plenty of back-and-forth about what's going on there. We can talk a little bit about that in detail. As we continue to head west, there are relatively minor changes; it's really the same overall concept, where the rail viaduct has to go over I-90 with retained fill for the Grand Junction Line and replacing that bridge.

Ari and Glen brought up potential realignments for Soldiers Field Road, provided that the bridge could get replaced and the span widened. With that providing a bit of extra clearance, you could try to shift Soldiers Field Road to the south in order to open up the path a bit. There is some potential there; how much you can relocate the bridge, and how you can build it, will determine whether or not it's feasible. We'll look into it further. This is the area in which the Amateur Planner plan is in the river, based on the cross-sections from yesterday. Those dimensions are not being carried into the DEIR, as Mike just said—we created these looking at the shouldered cross-section, so you can disregard those widths here.

For the creation of open space, we're not exactly sure how that would work, but if we used the original dimensions it would look like those drawings over to your right.

Q: **Jessica Robertson (JR):** Quick question: it looks on your drawing like the boundary of the new roadway is not aligned with the existing roadway—at the viaduct over by BU in the throat, you can see the existing highway coming out from behind the drawing.

Q: **Ed Ionata (EI):** You mean, why isn't the yellow shading lined up over the existing road?

A: **JR:** Yes, where the existing viaduct is visible in the aerial photo and isn't covered by the proposed.

A: **Mark Shamon (MS):** That's an optical illusion; it doesn't mean the alignment is changing, it's just an artifact of the map projection.

C: **JK:** You're basically just seeing something you shouldn't see—the existing condition where it doesn't exactly project onto the drawings.

Q: **JR:** Okay, so this leads on to the bigger question, I guess: can you clarify whether your starting point where you build the cross-section out from is the existing line, or are we including BU, or something else?

A: **JK:** Thank you, I forgot to mention—Glen will be going over some of the work that ABC has been doing with BU, but these alternatives are prepared with the Right-of-Way as we understand it at this time. Glen can speak to some of the potential to use some additional property between the state highway layout and the BU property to make the at-grade alternative work better, and pull it further south. This layout takes some of that into account with the refinement, but we can always take changes into account; it all comes down to how you can transition in and out of this section to the mainline. For instance, the mainline Commuter Rail is under Commonwealth Ave and it's got to get back to that; so even if you could pull it all the way south here, how would you get it back – we're looking at refining all of that as best possible.

C: **JR:** For this graphics, where you line them up—it'd be great if you could also do that with the existing, and show an arrow for the river to say, 'existing southern boundary'.

C: **JK:** The state highway layout is there, as is the property line, but it could go more than that, potentially.

C: **JR:** I guess this is just the problem with having only one cross-section as opposed to many.

C: **JK:** Yes, and obviously as the project progresses we'll be able to show more and more sections.

C: **EI:** It's worth clarifying here that what you've got from Nate on email and what Jim is showing is basically just adding 6' shoulders on all the alternatives. The recent direction from the advocates is to show these alternatives in the DEIR the way that ABC and Ari originally conceived of them, without shoulders.

C: **JR:** My question was just to clarify and make sure that we're showing all of them the same way, making the most of all that we have available.

C: **JK:** Right. So you're talking about the use of the land under all of these plans; currently the highway-viaduct does not go over BU. That may change, and some of the existing foundations supports have easements, but at this time we're not planning on pursuing that.

Moving on, here is the at-grade plan from ABC, and what HNTB put together for the feasibility study. It doesn't include the Soldiers Field Road underpass, which is a substantial change for all three variations. You can see all the blue here, and no blue here; that's a huge change from the perspective of the at-grade concept. With the removal of the Houghton, we've removed the access

road which allows things to be fully at-grade. From when you come under Commonwealth Avenue, you have to stay low for the Grand Junction Bridge over I-90 to maintain a clearance of 14.5' for cars, but once you clear that, you start coming up right away. It's elevation 0' at Commonwealth Avenue, and never below that. Pumping would have to take place for a portion of that; we're not sure how much. Since you're at-grade, you're able to bring down the overpasses to a certain extent—about 4%. For the highway-viaduct concept, the rail layout can go underneath the viaduct; but there's always a point at which the rail has to cross over or under the highway. Whereas when everything is at-grade, there are no vertical conflicts.

That's the biggest change; as well, you don't need this small structure here in red, since without the Houghton spur there's no need for the access road unless there's no other way to find access to the yard. Our goal is not to have this; that's why it's hatched out at this time, to express our desire to remove it from the plan.

If you want to get into the underpass, we can do that later, but we presented that at the October and December meetings. This concept would take advantage as much of the land to the south as possible.

I want to touch on some things that you can't see that well on the screen. This handout is what was distributed yesterday via email to you all. Working from left to right, we can see the property line that we were just talking about as it exists. You'll see on the other two that it goes over to the south.

Originally, the proposed viaduct cross-section was at 135' for multiple reasons, primarily safety. Getting a shoulder was a primary concern for MassDOT and the Federal Highway Administration (FHWA); the viaduct option allows us to do that fully. There's been a lot of back-and-forth about wanting to have a consistent cross-section, and how that can be done with those widened shoulders. We then put those shoulders onto the at-grade and rail-viaduct concepts, and as you can see they are pushed further into the river with those 6' shoulders.

There is a certain degree of balancing act here, where we have to provide a certain level of safety; a reasonable cross-section; support for staging, temporary traffic access, emergency vehicle access, and other cases where you might have to take a lane; as well as drainage spread and improving current drainage issues on the viaduct and on Commonwealth Avenue. Taking all of that into account, what is determined to be reasonable at this point, from MassDOT's perspective, is 6' shoulders or a distribution of that cross-section that would provide a certain level of safety as well as supporting drainage and other characteristics. The cross-section shows a reduction of 9', this may not come across as much, but that's how much the viaduct would decrease. This opens up more DCR property, reducing historic impacts, as well as some more

potential for re-aligning Soldiers Field Road further south, with the associated benefits to the green space around the Paul Dudley White Path.

Are there any questions on this before I move onto the other two?

Okay, so the top cross-section was what was put forth in that feasibility study; the bottom was the same cross-section with 6' shoulders. Obviously, in adding those, I-90 was pushed into the river whereas before it was running mostly right at the edge. Also note that with the portion of BU property that may potentially be available, the desire as those lines get defined would be to pull that roadway further south as much out of the river as possible. Let me reiterate what Mike said: these were cross-sections that MassDOT deemed reasonable, and are by no means what the advocates support for their cross-sections. Everybody has looked at them now, so if you have any specific questions, feel free to ask or we will move on.

Q: Bob Sloane (BS): Are you going to compare the lane widths of the existing viaduct?

Q: JR: And, are you showing travel lanes on Soldiers Field Road being widened?

A: JK: No, they're 11' today.

C: Ari Ofsevit (AO): No, they're 10.5' today.

C: JK: The overall cross-section, curb-to-curb, today is 24'. Depending on how we distribute the shoulder or similar, what was determined was that we'd use that cross-section with 11' lanes.

Q: BS: What about the viaduct?

A: JK: All of I-90 travel lanes are shown as 12' – they range a bit, based on the dimension from curb-to-curb, and are distributed a bit between 11'5", 11'7", 11'3", or somewhere in between. You have maybe a 1' shoulder on either side, which gives you 46', divided by 4, gives you something near an average.

Q: Harry Mattison (HM): What is the minimum lane width of the highway through Allston?

A: JK: Some places are at 11'3", some are at 11'7". It varies.

Q: AO: So MassDOT doesn't know the minimum lane width on the Turnpike extension?

A: JK: As I said: at places you have a 1' shoulder, at others a 1'3" shoulder, with a long distance between. You're asking me to infer something that could vary between 11'3" and 11'7"; this is based on what I've looked at on the flyover survey.

Q: HM: If it's in a range, then there's a minimum number and a maximum number, and all I'm asking you is what that minimum number is.

A: MOD: Jim is telling you what the survey depicts. If he says 11'3", or 11'4" then that's about what it is.

Q: HM: Either you don't know the minimum or you don't want to tell us for some reason—if you don't know it, can you find out and tell us?

A: JK: Until we paint the lines, we're working from survey which means working with some estimates. The line curves around the average width. Unless you check every inch of the line, you're not going to have an answer that's completely exact. It might be 11'3" at one point, but maybe two feet away it's 11'4", so that wouldn't be useful.

C: JK: Moving on, here we are with the at-grade alternative. We're using the MassDOT property line at this time, with 6' shoulders, as was visible in what was shown yesterday.

Q: BS: Which piece of BU property are you talking about?

A: JK: ABC can speak to that more; MassDOT hasn't been a part of those discussions as far as I know. Between the state highway and BU here at Buick Street, there's a fork of land with a retaining wall on one end and the north side curb on the other, which is currently not being used. That may be up to 10' at Buick Street, and possibly a bit more as you head east towards the parking garage depending on how the rail lines work and tie into Commonwealth Avenue.

Q: Carol Ridge-Martinez (CRM): I want to step back a bit and talk about the decision made by the Secretary to do 6' shoulders. In my experience with environmental reviews—which doesn't include much for transportation but a lot for housing—you need to show the different options that you tried to work out through this design process, to come to the design you came to. My question is, is there data to show how much safer the highway will be with shoulders than it would be without? So that we can take a look at what dangers it would pose and really evaluate the source data for why that decision is made.

A: JK: Yes, that will all be taking place in the DEIR.

A: EI: Our intention is that in the DEIR we will have data showing the impacts you could expect based on different shoulder widths.

C: CRM: And it will be sourced, including what shoulders exist in other places and what kinds of accidents occur? It's important to see the source of that data so that we can balance those things against one another.

Q: AO: One other question I have about that: do those data also exist for grades and curvature?

A: JK: You mean for vertical alignment? Yes, those will be in there as well.

Q: CRM: So could you give us some of that stuff now? Just, link us to those types of studies so we see what you'll be using later on?

A: JK: We will be using FHWA and American Association of State Highway and Transportation Officials (AASHTO) criteria, as standard, for the design. Then, typically when you have a design exception, you have to look through different constraints. It's a bit more difficult here because we're less ROW-constrained by the viaduct than the others, where the ROW is really driving you into a certain number.

C: CRM: Although, there are some restraints for what the neighborhood might want to see.

C: JK: Correct—as Chris stated, each of the three throat variations will be weighted and studied, and then when comments for each, they are weighed accordingly.

Q: David Loutzenheiser (DL): On the I-93 viaduct, you're looking at a shoulder width there, either inner or outer, of about 1-2'. That's a relatively new highway, and it went through design exception and so forth in order to get that. If you go down I-93 into Quincy, 30 miles south, you see 1-2' and frequently zipper lanes with 0'. If you look at the Mass Pike getting out east and west, it's also 1-2'. Given that status quo, for urban freeways in Boston, if this is termed a safety issue, should we be dropping a lane and widening the shoulders; or in this case, why can't we just go down to 2' shoulders inside and outside, to conform with what's been done on the 'Big Dig' and the exceptions involved in that?

A: EI: We hear you. That discussion is what you'll see in the DEIR, based on the discussions over the last couple of weeks. We'll put forth the viaduct alternative with 6' shoulders, which are of a 'compromise' shoulder. We'll put forth ABC's alternative as Glen will be running us through in a couple of minutes. And we'll put forth the Amateur Planner alternative in the same manner. That entire document will be put out for public review and comment.

We're putting their alternatives out the way that ABC wants to see it, and the way that Ari wants to see it. What that means here is basically that we'll be addressing in that report the two biggest discussions we've had with the Task Force and public: what do we do about shoulder

widths, and what do you do down by the river (do you cantilever, do you not, etc.). This will also address, through ABC's alternative, the newest development regarding the ability to start to push into BU property, which may help where things are currently pushing into the river.

C: DL: I'd rather we get away from these three discrete concepts. We should deal with the issue of shoulder widths no matter what the cross-section is. There are also other issues: I look at the 3K, where there's a whole empty space under the viaduct. Let's look at whether it's better for sound and visuals to have the Pike below-grade or at-grade or on a viaduct, and then integrate that. There are good elements to each of the plans; instead of speaking of them as discrete plans, let's look at the shoulder issue and let's look at what's better to stack on top of what. I think that stacking has potential: you could push down the Amateur Planner even tighter, with more stacking of Soldiers Field Road or the Turnpike or the Grand Junction. I think that would give more room at-grade.

C: JK: If there are no other comments, let's move on to the ABC presentation.

Update on At-Grade Alternative

C: Tom Nally (TN): Thanks Jim. If you don't mind, please put your sections on the left, and Glen, put yours up on the right, for reference throughout.

I want to start by thanking MassDOT and their consultants for preparing an at-grade plan drawing—let me emphasize the word plan, not section—which we think is a good illustration of the objectives of what we're trying to reach. You will see in yellow, meaning at-grade, from underneath the BU Bridge all the way west to underneath Cambridge Street. That has been our objective all along: to have the entire roadway at-grade. That is enabled because we no longer have, in this concept and the others, a need to provide access for the Houghton spur. That makes a big difference, as we saw earlier, in the two slides. With the significant exception of how this meets the water at the narrowest part in the throat, we do think is a pretty good illustration of what we'd ultimately like to come up with—in terms of how the overall general plan looks, without referring to the dimensions. We've got a lot to say about the dimensions.

It does not reflect the details of what Glen is about to present, because we've come up with an approach to define the dimensions in the throat in a different way than what we've seen. I want to make clear that our at-grade solution that we would like to see incorporated into the environmental documents does not have any elements in, at, or over the Charles River. It is very important that we stay away from that, for all sorts of reasons.

The option that we are about to present is what we would like to see in any at-grade alternative that is put into the DEIR. We refined this option from what was seen in the past; I'm going to talk very quickly about those refinements and then go into more detail. First and foremost, our emphasis was staying out of the Charles River. We are raising Soldiers Field Road by a few feet in order to help contain the wheel noise generated by the width of the Turnpike; this is very important both for the edge of the water along the Paul Dudley White path, and for Cambridge across the river. To the extent possible, here and within the overall design, we need to try to contain that noise. You will see that we have assumed minimal shoulders; I'll go into more detail in a minute. We have heard the concern that drainage and snow removal needs to be accommodated. We are taking a narrower point of view because we are constrained: we have established one firm edge on the north side—the edge of the river—and an edge that we want to try to maintain to the extent possible. We've had conversations with BU to maybe use a portion of their property—not very far into it, but trying to achieve some flexibility. But we generally need to maintain those two edges.

What we have done is allocate space that is available between those two edges; this dictated for us the dimensions that we think are a compromise. Any design is going to be a compromise. Any design needs to respond to constraints. That's what we have done and what we are proposing. We would like to see this evaluated against other options that are being proposed because we think overall this will fare quite well—particularly, from the point of view of cost. Glen will talk more about that, but the costs for initial construction and for maintenance go down if you don't have a viaduct. To the extent possible, as you can see, most of the major elements—with the exception of some of the ramps and roads that need to be raised, and the exception of the rail connection for the Grand Junction—are at grade. That's going to be a lot less expensive to build and maintain. We also believe, though haven't demonstrated, that it can be easier to construct and phase and manage traffic during construction. Again, we haven't demonstrated that yet; you'll have to talk our word for it and we have to demonstrate it to you. I'll turn it over to Glen; again, I want to thank the team for helping to surface some of these issues, which we'd like to focus on.

C: Glen Berkowitz (GB): As Tom said, we think that there are two phenomenal things that Mike and the team are showing. First is that we (and I suspect most of you) can now see the major benefits of removing the Houghton rail spur, for any of the concepts. If you remember, HNTB's version from a year-and-a-half ago, had the yellow at-grade highway transitioning to a retained fill elevated structure for the whole western half, from Agannis over because of the need to get the highway up above the connection to the Houghton. We think that, with the exception of what it shows for impacts to the Charles River, that this plan is fantastic.

Second, I want to note, and thank the team, that this is the first time in I think maybe three years that the MassDOT team has shown a drawing that they have prepared that says an at-grade concept can work. I just want to note that, and thank you for that.

That said, the concept shown on this plan is not the ABC plan; for those of you who have talked to us at length and taught us the issues regarding the importance of the Charles River, we wouldn't want you think that we changed our mind and thought it was okay to fill it in halfway to Cambridge. So, Tom talked about how the ABC concept should still be in the DEIR. I'm going to fill in some of those details, and then relate those details to some really important contextual information that Harry and Ari and Fred and others have helped teach ABC, about how what's happening here in this room relates to other things that are happening on other interstate highways throughout the country. Then, quickly, I'll get into next steps.

The ABC concept—which this is not—has always started with the premise that we have Right-of-Way constraints. Secretary Mullen was joking with me a few minutes ago about our service on the Big Dig, that he hated even hearing the words 'right-of-way-constraints'. For those of us who worked on the Big Dig, when you drive on I-93 North today into downtown, that tunnel had to fit between the foundation for Rowe's Wharf and the foundation on the left for International Place. There aren't 6' shoulders there. Separately from that, on the elevated highway south, and on Young Street, and in Cambridge, there aren't 6' shoulders there. There aren't even 6' shoulders on the other side of this project limit. We at ABC have always thought that if you're going to make an at-grade work, you have to first think about the ROW constraints on the outside, and then work your way in. In the end, that's a completely different approach; the MassDOT approach started with what do cars and trucks need and what's best for them, and then works towards the outside and see what's left. That's when you run into the river, and realize that it needs to get filled in 4-8', which won't work. That's the key difference, and that's what our ABC concept does not do.

Our concept is to respect the Charles River shore to the maximum extent possible, and to respect the neighbor (BU) to the maximum extent possible, and then figure out the best at-grade concept that can be accommodated and do those dimensions meet the minimum standards, which are evolving and have evolved, as I'll stress later. We have a handout that's going around, with cross-section details.

Some of the things that we're thinking about at ABC include: maybe the at-grade should take Soldiers Field Road and raise it a couple of feet on the dirt that's going to be moved around in this project, to help mask the truck noise from I-90 away from the Paul Dudley White and across the Charles River and Cambridgeport. In other sections to the east of here, as the project team told us yesterday, a part of the rail and I-90 itself changed elevation and ducked down; the ABC

plan takes advantage of a piece of the Amateur Planner concept and puts the Grand Junction above-grade. So the first thing is: we're trying to build noise mitigation into the at-grade concept.

The second major point involves BU. ABC has had a wonderful series of meetings this past summer and fall with BU; we went to them and said, 'we're cantilevering and taking things as far as we can go and doing our best to stay out of the Charles River, but we're not quite making it. That's because we're starting at Buick Street and saying that that curb-line can't be touched; would it be possible as we move east to intrude on it at points? Based on those meetings, this plan assumes that there's some available movement in the ROW limits on the south side. There is also lots of detail about what to do with the Paul Dudley White—how wide is the riprap itself, and is there a way that engineers could design a cantilever that could come off of the land and extend above the riprap but not over the Charles River itself? Some details in this plan were already discussed yesterday with MassDOT; I'll try to summarize it as simply as I can. The main difference between the ABC concept and the at-grade you saw earlier is the width of I-90.

Basically, ABC says that, in order to make an at-grade work, make some slight improvements to I-90, but don't make enormous improvements to I-90. Generally if you do that, you can make an at-grade fit without filling in 40' of the Charles River. Harry and others have asked for dimensions—the key here is that I've tried to simplify; the dimensions matter, as I'm sure everyone recognizes. For the existing outside and inside shoulders, when you round off to the nearest whole number, 11'3" becomes 11'. These are the numbers that they presented earlier today and then these are the numbers that ABC has in its plans. As Tom said, we used to be carrying lower numbers through this; so if these could be made to work on I-90 for the last fifty years, acknowledging that the operator on the highway would want it to be as wide as possible and as fast as possible, but maybe they can work for the next fifty years.

We listened really hard to the project team, including with regards to drainage and snow and those considerations, and we've increased to what you see here. Those are the biggest differences between the two plans and the major details about what we've talked about.

Second, I want to talk about the national context. I'm not sure that anyone, including myself and Tom and others, knew the full details about what has been happening with FHWA in Washington, or about what has been happening with FHWA's review of a very specific and interesting project: I-94 in Milwaukee. This summer, FHWA published a document that I think should be required reading for every member of the Task Force—it deals with so much of what we've talked about for the last three-plus years. And then, lo and behold, they did the DEIR statement review, and produced a record of decision by FHWA. Now, this is I-94; if I were really into Photoshop, I would have taken the Spring Hill Cemetery over here and overlaid the Charles River, and overlaid Boston University over here—that would almost right where we are. It's not

that different. Some might say that the edge of the Charles is as inviolable as a veterans' cemetery, so this is literally what is going on here, too. So they had what might be called an at-grade concept, which they spent over 3 years analyzing in Milwaukee; they also had something that they called a double-deck, which I'd call a viaduct, and these were the two options that formed the basis for several hundred pages of analysis.

They eventually arrived at a plan that is really directly applicable to what ABC is asking MassDOT to include with ABC's at-grade concept which is: do you want 6' shoulders over here? By all means. Do you want 12' lanes over to the west? By all means. The normal, standard stuff should be there outside of the restriction-point. But then they narrow when things get restricted: this is their graphic, not mine, and it shows 2' shoulders, and 11' lanes. They have these and they have been approved by FHWA. I don't know if the Secretary can hear, or is listening, but if she wants to have shoulder and lane widths that she knows FHWA can approve, I'd be happy to brief her on the details of this report; or better yet, let's fly in the FHWA team from Milwaukee that approved this, because there it is: 11' lanes and 2' shoulders on a highway. It's true that the length of those two things in Milwaukee would be shorter than what we would need here, depending on all kinds of complicated things; but they exist and have been approved.

Maybe some of us around the room don't think the cost of everything should be among the top priorities from the project, but I think many of us do, so I included this slide directly out of that Milwaukee report. The cost just to construct this in 2014 dollars are listed right there; building the at-grade costs less than a third of building the viaduct—and that was building a new viaduct that didn't exist. It's more expensive to rebuild an existing viaduct and replace it. A year-and-a-half ago, HNTB had one slide for costs that said 'low' for ABC, 'medium' for the viaduct, and (I don't know if it should be) but it had 'high' for the Ari plan. We think the cost savings of the at-grade would be phenomenal, and we look forward to that robust analysis in the DEIR.

I tried to do a rough life-cycle cost; it's true that it costs more money to snow-plow a road with 3' shoulders than one with 6' shoulders, and for 11' lanes rather than 12' lanes. But those pale in comparison to the cost for maintenance of the steel and other things over the 75-year lifecycle for an elevated highway, which you don't encounter for an at-grade roadway. Now I know there are probably a dozen people in this room who want to immediately list all the pros and cons, and I only listed a couple, and I know that. I'm sure there are water pumping and electric costs, and other things associated with an at-grade, but just in general, when we say 'low' and 'medium', these are the sort of hard numbers that we got out of I-94 in Milwaukee.

I know you told me to try to keep it to five minutes, and I'm trying, so this is my last slide. It's great to hear MassDOT yesterday and today emphasize that they've agreed to include ABC's option in the DEIR; as part of that, at yesterday's meeting, to make a long story short, we're

showing rail pushed as far as you can go on the BU side, as consistent with what we've discussed before with no greater impact to your operations. We at ABC really don't have the ability to do complex curvature or rail alignment, so they have agreed that they would need to do that. And we all agreed yesterday that we might not be able to take advantage of every foot that is shown because you still have to connect the rails underneath Commonwealth Avenue. That might result in them telling us, 'well, you said you could use *x* feet of BU property but really you can only use *y* feet.' So they agreed to tell us what their number is and we agreed that we would think about it, revise the concept as needed, and get back to them and close the loop. Finally, I know most of you are very busy, but please—today, or tomorrow, or whenever you like—tell Tom and me what you think, ask any questions, and of course talk to the MassDOT team.

C: JK: Thanks, Glen. Ari, we had talked about giving you some time as well.

Update on Rail-Viaduct Alternative

C: AO: Thanks. I don't have a presentation, so I'm going to talk and that might take 15 minutes, so I will be quick. I want to echo first that part of this process that has been very helpful is how iterative it's been. It's very helpful to go through all of these pieces one-by-one. There is a lot more to discuss about lane widths. I looked at a Google Maps fly-over and it looks like most of the section between Allston and the Prudential tunnel is 11'6" and some of it, actually, is 10'6" lanes. Looking at those lane widths, and what we get and lose, we have to make sure that we're not overbuilding. 12' lanes is overbuilding, when it's wider than everything else coming down the ramp. We have to look at all those pros and cons. For today, I want to talk about couple of things that have come up.

One is regarding the idea that one of the issues with shoulder-width is drainage and snow-storage/clearance. Obviously, we have a lot of issues with snow storage on the Pike—I was just coming in on the extension and you can still see the walls. Obviously once the walls peak, you have to do something with it. But with this section of the highway, the idea that I've had recently (and maybe something we could put in the EIR) is this: this section has the highway below and the railway above, and we have here a covered section with a shared-use path here, the railway here, and the roadway open. One idea is to say that if drainage is an issue, we could close the lid, so that the sides are still open, and reduce the amount of precipitation that falls especially during heavy rains. And a high-level idea to enhance that could be to move the railroad up here and put in some plantings as an elevated rain-garden to soak in water and help with drainage below to help mitigate that issue. I know the T doesn't like to have trees right next to railroads, especially deciduous trees, so there would be some controversy, but maybe someday they can screen the railroad both from the river and from any trees that are there.

The other piece—and I don't know if you've talked about it because I was a few minutes late—relates to the Houghton spur end. One of the things we had discussed is having a crossover; when we had the Houghton spur we needed that to be elevated, but without it, we're looking at how to make that work better including operational efficiencies and how the station works. Something else we were talking about is, if you switch the storage and the station in the vicinity of West Station, how that affects operations and costs.

Those are some of the things we've talked about; I look forward to making sure that what goes into the DEIR is a robust solution and that we evaluate everything fully, and thank you guys again for being willing to have these discussions.

C: **EI:** Thanks, Ari. As Mike said earlier, all of these ideas will be presented in the DEIR. One of the important aspects of the DEIR is to get all the major issues out there, even if they're relatively minor. Lane width, for example, will be contrasted between the viaduct solution and both Ari's and ABC's solutions, including incorporating the safety issue. We also have the issue of being in the river or not in the river as a focal point. Even if all of the permutations of all of the alternatives are not there, the important thing in a DEIR—where there will be no preferred alternative selected—is to make sure that all the major issues are being addressed. We have to see not only what the people in this room have to say about them, but also the wider public as well as various agencies and other interested parties.

We have an hour left, at this point, before Mike has to leave, and an hour and fifteen minutes or so before we have to be out of the room; I'd like to open things up for discussion.

Q: **Margaret Van Deusen (MVD):** I heard that Secretary Pollack didn't want to take an alternative into the final EIR that was not permitable—going that back to the lane width issue. What is the process for getting FHWA involved to get some sort of approval for a design that is not strictly to AASHTO standards?

A: **JK:** The process is called a Design Exception, and it's dealt with in a Design Exception Report. In that document, you essentially go through all of the constraints and outline why you believe you need to compromise on the standards that they have. In urban locations, Right-of-Way (ROW) is often a major component. For instance, with the at-grade option, ROW is a constraint that we have to fit within. In addition, you are expected to outline anything else that was a determining factor in why you would pursue deviating from the standards. As Carol was saying, you have to go through different alternatives to discuss why you arrived where you did. The way that FHWA approaches AASHTO lane widths is never black & white, or absolute, with no way that it can be changed. But, in order to change it, you have to go through that very iterative, documented process.

Q: **MVD:** How much can you front-load that? How much of that can happen as early as possible?

A: **JK:** Mike can speak to this as well if I miss anything, but this project is similar to others that have been done by MassDOT: for example, the Whittier Bridge replacement, which was a Design-Build project that went through the concept/permitting/ENF stage, through DEIR, and to final EIR, all by 25% design. These days, 25% design really means more like 70% design; there is so much early concept work done to make sure that you can permit everything before advancing it; then, in that permitting process, you can put forth Requests for Proposals (RFPs) to design and build that project. Depending on how it's set up, a project will also typically go through the design-build process.

Q: **CRM:** I guess I'm a little confused. If you present all three of these options without necessarily framing which one you think is the best—which is, I think, what you're saying—then some of this must occur in the DEIR. Because, as the Secretary pounded into our heads the other day, you have only 6 years before the viaduct fails. So when are the critical-path moments, where you have to make decisions about what approach you're going to take?

A: **EI:** The DEIR will be published; comments will come in; the final EIR with designate a Preferred Alternative. We'll proceed from there.

Q: **CRM:** Right, so how do you get to the Preferred Alternative?

A: **EI:** We weigh all the information included in the DEIR—though this info is not scored—and take public comment on that report, to further inform the decision; taking all of that in combination and into consideration, we will pick a Preferred Alternative.

Q: **CRM:** What do you mean by 'scoring'?

A: **EI:** Typically in an EIR, things are listed with a plus/minus along with an explanation of how you arrived at those values.

Q: **CRM:** Will some of that scoring system go back to the scoring graph that you presented to us at one point?

A: **EI:** Correct, yes. Just to give you more information, many Environmental Impact Statements (EISs) and Environmental Impact Reports (EIRs) stay away from weighting, scoring, and ranking, because the statistics get some complicated that it becomes very difficult to come up with a useful answer. Particularly at this level of design, there are often 4-5 levels of scale, so an alternative will read, for example, -2, -1, 0, +1, +2 for safety. In addition to that, there will be an

explanation of how the Preferred Alternative was chosen in the final EIR, with the factors that were the most important and those that were secondary.

C: Ken Miller (KM): Like in any evaluation process, the more criteria are used, the more information people have to make an informed decision. This is not a black-box process. Just because something gets a 99.3, it's not necessarily better than a 98.6—but the process provides more information to those making the decisions. I would differ a bit from what you've said, though: I believe in getting as much quantitative information as we can. The plus and minuses are great for summary, but real numbers—differences in crash rates, or vehicle miles travelled (VMT), or whatever else—it's better to use the real numbers because you'll be able to see the real differences beyond just 'each of these alternatives gets a plus in this area'. There are different ways of translating quantitative numbers into summary values, so we want to get both.

C: EI: We're on the same page. You'd see, in the detailed impact analysis section, exactly those numbers that go into the summary. An easy example is square footage of wetlands impact. For each alternative, we can calculate down to the full accuracy resolution of the survey; for that, there probably wouldn't be much argument from the viewing public as to those measurements. There could be a lot of input to say things like, 'we think 2,000ft^2 is a neutral impact, and 5,000ft^2 is a negative impact. That's where that input is most useful; to highlight the different levels of importance that everyone puts on these data.

C: CRM: With the shoulders, you're increasing the width of the Mass Pike, and you are going for something that does not already exist in our neighborhood. And you're saying that that's for safety reasons, in urban communities where very few 6' shoulders exist anywhere. And where, in many instances, they've made the decision not to even put them into the DEIR. So you're framing it in a certain manner with your approach. I'm concerned—you're the experts, but framing is framing. I've done housing development impact statements before and you can tweak the language a little bit. But you guys coming out so strongly with 6ft shoulders in places where there aren't any others is very disappointing.

C: EI: Counter-balancing that now is the agreement to portray, for example, the ABC plan, which carries narrower shoulders. That gives a contrasting situation, and like I said, with shoulder-width being a major issue here, it has to be and will be evaluated in the DEIR. Glen's presentation a moment ago could be the outline of a comment letter to argue why narrow shoulders could work since there are narrow shoulders elsewhere. Similarly, MassDOT has to outline why wider shoulders are necessary—with crash data, safety data, probably some information from the study just mentioned. Again, the key question for me as a EIR/EIS person is that when you take a look at the DEIR, are all the major issues reflected there and listed with the pros and cons of each one represented, in order to get good and useful comments back?

Q: **GB:** As if it's not already complicated enough: I could see several people nodding their heads during Carol's question. It would be simpler if this was a discussion of which is safer, 6' or 3' shoulders or anything else, but unfortunately I don't think that word applies. It's much more complicated than that. Let me just take 2 minutes to outline this, and if the team wants to correct, amend, or support what I'm saying, feel free.

There's an existing highway out there today, with narrow shoulders and narrow lanes; but that is only one dimension, what we call the horizontal dimension. There's another dimension, which would be the *y* axis, which is just as important to the project because it's not just as simple as "is a 6' shoulder safer than a 3' shoulder". Because the viaduct goes up in the air as steeply as they can get it to go—

C: **CRM:** And it curves.

C: **GB:** It goes as high as it can because they want a rail line to go underneath. So they're designing it to complement those rail designs, for the possibility of the eventual two possible rail-lines, including the Grand Junction. So it's got to go as high as it can. And then, it curves, to come back down again—which adds its own very complicated set of safety issues.

Q: **CRM:** Will that be calculated into the DEIR?

A: **GB:** In the I-94 Study, the answer to your question is absolutely yes. They asked, 'what's the safety of the existing road; what would the safety be on the double-deck viaduct; and how do those to compare to the safety when it's all at-grade? What's fascinating is that they chose an option that was not the safest. The safest option for I-94 is the viaduct option. So it's not just as simple as 'which is safest'. Again, none of this is being said by the team, so they'll either agree, or not. But you don't always pick the safest option. In the Big Dig, for example, if we were to do that, we would have had to buy out Rowe's Wharf and put in 12' shoulders and everything else, like we all used to hear about. So you don't always do the safest thing; you don't often get everything through. Here, in summary, ABC hopes that its at-grade option is safer than the existing condition—with similar lane and shoulder widths but without the vertical changes—but we don't expect that it will be shown as safer than the viaduct with 6' shoulders. If the study comes out the way we expect it to, it will say that the viaduct is safer, but it costs a lot more money and has all these other impacts; it is that complicated set of conditions that we expect to see in the document.

C: **EI:** I want to get Mark up here for a moment, to review some of the station issues; my apologies for forgetting that earlier. But first, we'll get through a few more questions: Jack, then Harry, then David, then Mark with his 4-5 minutes of material.

C: Jack Wofford (JW): To follow-up Glen's point and yours prior to that, where you said—I think—that DOT would be presenting the case for wider shoulders; and that a comment letter would be expected to show why the narrower shoulders would be appropriate. My question is, wouldn't it be a much more appropriate fit with what the Secretary has asked for—that is, these 3 alternatives presented in an objective way, without preference—for the complexities that Glen has alluded to, including Section 4F, which hasn't been mentioned; and evaluate the shoulder width issue in the report, in an objective way, rather than having it be a DOT position and an anti-position.

C: EI: My apologies if I wasn't clear. That's the intent. The draft outline which is sitting on my desk right now says, 'highway viaduct' and all has all of the subcategories: safety, environmental impact, impact to the rivers, noise, air, 4F, et cetera. That outline and the coverage is identical for each alternative. My point was that by carrying ABC's alternative with those narrow shoulders, as well as carrying the DOT alternative with wider shoulders, that comparison is built into the report. You'll see information about the safety, and the *x*, *y*, and *z*, axes for all alternatives, which will encourage comments. There's not going to be a judgment as to which one is better and worse. The same is true for all the standard impact areas you'll see in the report.

That also reminds me, I don't think I gave a complete overview of all the permitting elements, beyond FHWA. We will do the same kind of analysis, and say, 'this alternative requires an Army Corps of Engineers analysis of level *x*, this one is more complicated and requires permits *a* and *b*, et cetera'.

C: MVD: Kate, could you say a couple of words about the bank issues, and the mitigation you're calling for, whether 4F or whatever else?

C: Kate Bowditch (KB): Margaret brought me in to look at this section; even the alternatives that don't "go into the river", including what's out there now, have major impacts on the river, which is obviously something we're concerned about. You mentioned that you want to ensure that every major, important issue that could impact the direction of design, but I haven't heard any discussion so far about the river bank and the options, opportunities, and challenges there. Even if there's no "fill" as a result of the project, there obviously will need to be and should be mitigation for a range of impacts that will occur. Some of those might look a number of different ways. I feel like it's important in this context to make sure that that doesn't get left out as part of what is considered throughout this process.

C: EI: Understood. As soon as we can start to calculate the square-footage impact—shadow, direct, noise, fill, visual, vegetation, etc.—then we can get a better sense of what mitigations would be effective and meaningful, including outside of that relatively short area with the cantilever or

shadow impact. I think it's a great idea to get back out into the community and to talk to the natural resource advocates to talk to them about impacts and mitigation.

Q: **Tegin Bennett (TB):** I'm an alternate today, so please feel free to give me a short answer if you've gone over this before. I have a couple of questions. First; is the impact of noise being considered?

A: **EI:** Absolutely, yes. And there will be differences between alternatives with different geometric relationships.

Q: **TB:** Second question: taking away access to Cambridge at River Street is, I believe, a newer addition. Is that in all of the alternatives, and is the impact of that fully understood?

A: **JK:** Yes, that is currently shown under all three alternatives. That concept remains under consideration, and other studies including traffic analyses are currently being done. It currently shows as a refinement, and will go into the DEIR for comment, but yes, it is currently shown on each concept as an alternative.

Q: **TB:** Okay. Third question, now: can you talk more about the connections across the station to Comm. Ave and where that currently stands?

A: **EI:** Yes, that's what Mark will talk about in a few minutes, so let's come back to that afterwards.

Q: **HM:** I have a few quick questions before I have to leave to get the kids to the dentist. First: the way that Tom and Glen described their view is that we have a very constrained space. There's a clear, fundamental principle to the work they've done working within those constraints. I think Ari might feel the same way, and it's great that DOT is agreeing to put into the DEIR the at-grade plans to adhere to that fundamental principle. The question is if you'll be providing recommendations to those plans? At first it sounded as though you were going to let ABC and Ari be the authors of those two, with a sort of "we'll take whatever they give us" attitude. When they say things like, "we think this should be 4', or 10', or 15'", are you guys going to have some ongoing dialogue that says, "maybe instead of making that 4' you can make it 2', and use those extra feet over here to make this work"? This would be more collaborative, so that someone like Ari isn't stuck figuring out whatever he can on the weekends and having to put that into the DEIR.

A: **EI:** The simplest answer to that is that there is going to be some ongoing collaboration. The difference in the approach that Jim put forward, and the approaches that Glen and Ari put forward, is that we'll use the shoulder widths and other details that, for example, ABC is using, and continue to do the engineering that Jim was talking about along the whole length, to see if

anything happens with the geometry, the turn radii, and other elements of the highway. What Jim presented used the same design criteria for all three alternatives—those are the things like, going into the river is unacceptable. Now we're using the design criteria that ABC favors, including lane width and shoulder width and the other pieces. We'll run that through the engineering process—which is to a degree what HNTB did, but now that we have some changes, primarily with the Houghton spur, to look at, we will be doing those again.

Q: **HM:** So there will be a series of working meetings with those authors to work through details over the spring and summer?

A: **EI:** There will be back and forth on an ongoing and individual basis as things come up, as we've been doing so far.

Q: **HM:** Great, thanks. Here's the other part of what I wanted to ask about: one of the big advantages of the at-grade plans is the ability to connect over the at-grade highway and rail in order to create new connections to the river and pathways, which don't exist today. I didn't hear much about those in the presentations, so can someone go into those in more detail?

A: **TN:** I can go into that, sure. We did analysis of the point at which the distance between the property-line on the south and the bank of the river, which curves when it starts to widen, and we made some assumptions about how wide it can become with the decks and structures over that. You can't do it at the narrowest point with the dimensions we had. Like I said, we made some assumptions about those dimensions, but we were told yesterday that it was possible our assumptions weren't exactly right. That's fine, and we know that at some point it will be wide enough to be able to get structure in there that will support decks.

C: **HM:** It would be great for those to be in the DEIR.

C: **DL:** Listening to both of these plans, I feel like neither of them satisfy me by themselves; I think there are pieces from each that will combine to make something acceptable in my view. With Ari's plan, I like the fact that you have the Grand Junction over the Pike; with the ABC plan I like that you have the at-grade Pike but also like that they're showing elevating Soldiers Field Road. So what if we actually created a new concept—call it the MAPC plan, why not—putting Soldiers Field Road over I-90 westbound, using Ari's plan as a starting point, and creating a berm from Soldiers Field Road down to the path, so that you actually widen the parkland even as it is today but keep I-90 at-grade. That berm could transition down with trees.

Q: **KM:** To Tegin's question about Cambridge Street, again I would encourage MassDOT to consider the fact that you can have alternatives not only in the throat area but in the development area as well. Just like in the throat, there might be good reasons to do some things and good reasons to

do other things, but we have to be able to compare them so that we don't just keep refining on alternative. Now, to my question. Suppose both Ari and ABC had said, you know what, go ahead and include both of our designs in the DEIR with 6' shoulders on both of them. Do you think that those would be feasible alternatives?

A: **MOD:** I think the attempt was to identify cross-sections and consists that maintain the operational analyses on I-90 itself. To argue whether one is more feasible or less feasible, oftentimes the answers provided by other regulatory agencies are needed.

Q: **KM:** Given now that you have agreed to include both Ari's and the ABC concept, both with less than 6' shoulders, do you think those alternatives are infeasible?

A: **MOD:** I think it's worth evaluating and considering them. There have been changes to both through identifying alignment issues. It serves us well to continue to advance as much as we can to the next stage, evaluating and soliciting feedback. There more alternatives we provide, the more opportunities there are to receive public feedback.

Update on Rail-Yard and Station Refinements

C: **MS:** I'm going to change gears a little bit to go back into the yard and talk briefly about the concept going into the DEIR, which is a bit different than what you've seen before. There's another alternative that we're looking at, which is to have the yard without anything else above it. So, you can see the trains being stored up at the north end near the top, with the rail-consists on four tracks. You've seen before the plans for the station platform level with two center platforms with a track on either side. What we're looking at now as another option is a three-platform system where you would have a platform up tight against the private property belonging largely to BU as well as a center and a northerly platform.

This evolved out of some of the Task Force meetings we've had going back a year or so, when Ari first brought up his plan and the idea of having cross-platform transfers. We always had an opportunity or an ability to do some cross-platform transfers under the two-platform option, but we thought that there might be some advantages to taking a look at three-platform options where the cross-platform transfer happens on the center platform. Under this scenario, the inbound train coming from Worcester could switch over from Track 1 to Track 2, and pull up to this platform while a Grand Junction train is on Track 3 on the north side of the center-platform, so that the cross-platform transfer could occur there to get people onto the Grand Junction Line.

In looking at this in more detail, we also thought that instead of people having to climb up and over to get to that center platform, we could look at putting the platforms such that on the

inbound side so that people could walk straight up to the platform from either Malvern Street or Babcock Street, to get onto inbound trains. We would still need to provide some sort of means for people to get onto the center platform. Earlier, you have seen a stair-and-elevator system over here that would allow people to climb up to get into that center platform. In this particular system we're looking at here, you don't need to have a stair-and-elevator system, which is something the MBTA had asked us to try to get rid of to avoid having to deal with maintenance.

What we do instead is put that stair system on the southerly platform so that people are walking straight up to the platform and not getting onto a separate elevator or stair system. We saw some advantages both in eliminating the maintenance and security headaches and in avoiding the need to have two elevators, which would have been required for redundancy, which reduces costs.

We still are providing connectivity; to get to the question from earlier, we are providing for a loop section that people can walk up or ride up to get over to Cambridge Street from Babcock Street—with the same thing at Malvern Street. Even if you didn't put the ramp in right away, people could walk up and take the elevator; you could provide a bikeway on both sides, or provide it just on one side. In any case, there would be at least two points of connection through the station from the south to the north side.

The other potential advantage is that we could potentially reduce the space or the amount of platform area—that's not to say that we will be able to, but potentially. Again, one of the reasons that the center platforms are so wide is that you we have to get people across from one to the other. If we had a center platform, we don't have to be as wide except for the elevator, so there are some cost savings there. On the north side, the Grand Junction doesn't need to be as long because those train-sets would be much shorter than the Commuter Rail trains assuming they are the DMU's which have been discussed elsewhere. So, here we're showing here a three-car platform; it might be four, or it might be five, we don't know yet; but again, this gives us a chance to reduce some costs related to the station infrastructure.

To wrap up, these are some of the ideas we've come up with which will appear and be assessed in the DEIR; we didn't want it to appear there without at least presenting it to the Task Force so that you all have a chance to take a look at it and ask questions.

Q: **JR:** One point about the bike and pedestrian access: you're saying that you could still have two points of connection, one either side, for either bikes or pedestrians to get across the whole thing without going into the station, correct?

A: **MS:** That's correct, yes.

Q: **JR:** And without the bikes going into an elevator?

A: **MS:** Correct.

C: **JR:** Great, thanks.

Q: **BS:** Is the Cambridge Street bypass going into the DEIR? How does that tie into it?

A: **MS:** As many of you know, there's been some discussion with Harvard regarding a potential future connection from Cambridge Street into West Station. What we've just shown here is just how the roadway connections might tie into the bus ramps, but there is an opportunity for that potential connection from Cambridge Street in the future. Nothing we have laid out here precludes that from happening if and when it becomes needed.

C: **EI:** Under this plan, the buses would come in here, and have their exclusive berthing area. This would allow people to get off the bus on the right sidewalk and walk to the stair-and-elevator system on either platform. There is also a layover area for the buses over here so that they can make up time; and there's a kiss-and-ride on the north side here, so people can get dropped off and then walk across here to get to the stair-and-elevator system.

Q: **BS:** We had heard about cross-town bus service that would come from Harvard Square by way of Malvern, to Babcock, and all the way to the LMA. How does that tie in?

A: **MS:** The transit-way that is being looked at for an extension to Malvern Street would tie into an intersection up here; bikes and pedestrians would have to move to this side in order to make the connection all the way through. But we've laid it out so that it would work if it needed to.

Q: **JR:** And that's in the DEIR?

A: **MS:** I believe so, yes.

Q: **JR:** Could you bring in those drawings? We've talked about them, it'd be great to see them.

A: **MOD:** They were presented at the December 8th public meeting, and that presentation is on the project website for viewing.

Q: **GB:** Two questions. First, other than the crossings, could you explain the reasons for proposing these changes? I didn't hear any, and I was wondering if you could be more specific about that. And then second, if the old station cost a dollar, how much less do you estimate this smaller station will cost per-cent?

A: MS: I'm not going to say that there's a huge cost difference—it'll still be very expensive to build this station, because a lot of the costs comes from this deck on top as opposed to the platforms down below. I would say it's less for sure, but I can't say that it'll be orders of magnitude less. To your first question; it was Ari's raising the issue of cross-platform transfers that really made me start to think about whether we could make this station work with another solution. That's really what prompted it all. In the meantime, as we were going through the benefits of the other option, and looking especially at that stair-and-elevator system that the MBTA never really liked, we started realizing that we could address some of that with this idea.

Q: EI: Any other questions for Mark?

Q: KM: I have a question about Malvern Street and the buses. Could that cause you to rethink the whole design of the station? Do you need a suburban-style bus turnaround?[4]

A: MS: One of the reasons for providing a layover is, from our early discussions with the T and Harvard, that there's a lot of backup in Harvard Square, Central Square, and Kendall Square, because there's no place for the buses to layover. That's one of the reasons we provided for it here. It would take some more analysis, so I can't say that that it couldn't be reduced, but that's the way that it's shown at the moment.

Q: EI: Any other general questions?

Q: JR: What's the latest thinking on the access road into the rail-yard?

A: JK: We're looking at some potential use in that area for stormwater treatment, depending on the throat-section variations.

C: NNG: So you're looking to get out and away from under I-90 for the at-grade variations.

C: JK: Potentially, we're looking at a curb-cut into the bus loop and coming out into the yard. That's one idea. For getting from one side to the other, we could go under or over I-90, or redesign the bridge. The combination of the Salt Creek and substantial utilities running through the area takes away a number of otherwise viable alternatives. There's a strong desire to not come off the ramp itself; what was originally proposed from the feasibility study for the rail viaduct option was a connecting intersection here, and then coming down, this intersection would be flipped to the other side, so that you could get off the ramp system.

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[4] The bus berths proposed by the project team are in alignment with other busways in the MBTA system such as at Forest Hills Station, Fields Corner Station, Haymarket Station, or Ashmont Station.

C: JR: That seems like it makes sense.

C: EI: You want to keep it away from Cambridge Street.

C: JR: It does seem like an excessive amount of infrastructure and chopping up of that parcel.

C: JK: This could be done with all three alternatives, as well. We're also looking at looping around and tying into this intersection. Adding an intersection with a properly-controlled signal is one thing, but it's another to add a lot to what's already going on – lefts, through movements, etc. Putting another intersection here just might be too much.

Q: BS: I'm sure you haven't done full costs yet, but when will we hear about constructability between the different alternatives?

A: Chris Calnan (CC): Part of our effort in the DEIR will be looking at constructability for all these variations. It hasn't been done yet; it needs to be completed and it will be part of the DEIR. We've shown some stuff to-date, to give you a look at how things will be staged; now that we have been refining this in the throat, we'll soon have a better picture of widths and how all of that works out.

C: GB: Bob's question should lead us all to want another Task Force meeting, when you say it's time, before you file, where you show us Task Force members what you're considering as construction staging for all three options. You may hear some ideas from members to improve; it can only help to get more comments. Maybe I'm wrong, but in terms of the highway viaduct option, the only construction staging I've seen was minimal, and was permanent new highway that was going to be built in chunks north of the existing highway, to support a total width with the 12' and 9' old shoulders. I thought that the team has since said that that's not how you're going to stage the viaduct, and that you said you were now planning to build a temporary viaduct, not permanent. If that's true, I just want Bob to hear that, because I don't think any of that has been shown; I don't think we've seen anything to talk about a temporary viaduct to support building the viaduct option. I think it would be good to show the Task Force that before you get too far along.

C: MOD: We still have to evaluate; we are still making refinements to the proposal we saw presented today, not to mention those provided by Glen and Ari. There's still a fair amount of work to do on the construction-phasing side of it. We did agree—and I think the Secretary was clear on this as well, two weeks ago—that when there is additional information to provide to the Task Force, we need to provide that to you in advance of filing the DEIR.

C: JR: That's a specific thing where, especially, a lot of the challenges were being driven by that Houghton rail spur in the last version that we saw. This is a crucial aspect that we should all see, even acknowledging that you guys are still working on it, as soon as you have a draft.

C: MOD: That's fine.

C: EI: Important to note also that it's standard practice that you don't put any alternatives into the DEIR that you couldn't build.

C: JR: Right, that's why we should all be able to see what that is.

C: GB: Just a point of clarification. I was trying—and I think others were suggesting we all get together and talk about it and have it presented to us—which is different from just getting an email from Nate that says 'attached for your information' with a 200-page .pdf of construction staging detail.

C: Nate Cabral-Curtis (NCC): I don't anticipate sending it out like that. I have it noted, "Glen requests a Task Force meeting before filing of the DEIR", and it will go in the minutes as such.

Q: GB: Is the project team agreeing to do that?

A: NCC: I think that's what Mike just said.

A: EI: The project team is bringing that to MassDOT leadership, who just left, and I think what he said is yes.

Q: KB: I wanted to ask if the 3 alternatives would be looked at and evaluated in concept form?

A: EI: Yes, we have specific modeling that builds on all of the other modeling that we've looked at.

C: Mark Fobert (MF): 2070 is the extreme outer limit. We couldn't do 2100. 2060 could be doable.

Q: EI: Did we share that?

A: NCC: Yes, we did. That was one of those four-hour meetings.

Q: KB: In terms of evaluation, though, how do the different options compare?

A: EI: There's a vulnerability assessment, for lack of a better word. Because the highway is classified as a critical piece of infrastructure and an evacuation route; interestingly if you take a deeper look at it, as you go under the Commonwealth Ave Bridge and head east, this interchange gives the opportunity for people to go over to Cambridge, cut across, get on I-90, and head west if

you're trying to get everyone out of the city. I'm happy to share all that data; we didn't think it was important enough to get into that level of detail on the specific model. You've seen the MassDOT vulnerability assessment, which is similar to that but focused on this area. That uses 6" contours, and is really good data. That is what led to Jim's statement that at some grades there would need to be some pumping. The other vulnerable spot is the Soldiers Field Road underpass, but because of alternative roadways, we have a pretty good network in that situation.

C: NCC: Alright all, with that, we're done for now. Thanks everyone.

Next Steps

The project team is continuing to advance the Draft Environmental Impact Report (DEIR), while working with the authors of the at-grade and rail-viaduct alternatives to integrate any refinements and prepare the alternatives for analyses and write-up in the DEIR. The team is also continuing outreach to adjacent communities and interest groups to engage the public around the upcoming DEIR submission. The DEIR document will be presented to the Task Force in advance of its filing and thereafter presented for public and agency comment, to inform the Secretary of Transportation's selection of a Preferred Alternative for advancement to 25% Design and towards final design. Should significant new information arise that would substantively change what is to be described in the DEIR from what has been discussed to date, MassDOT will gather the Task Force to outline the changes.

Appendix 1: Meeting Attendees

First Name	Last Name	Affiliation
Gerald	Autler	BPDA
Joseph	Beggan	Harvard University
Tegin	Bennett	City of Cambridge
Glen	Berkowitz	ABC
Kate	Bowditch	Charles River Watershed Association
Jorge	Briones	MBTA
Hannah	Brockhaus	Howard Stein Hudson
Nate	Cabral-Curtis	Howard Stein Hudson
Chris	Calnan	TetraTech
James	Cerbone	MassDOT
Donny	Dailey	MassDOT
Anthony	D'Isidoro	Task Force Member
James	Gilooly	City of Boston
Karl	Haglund	Department of Conservation and Recreation
Ed	Ionata	TetraTech
Marc	Kadish	Task Force Member
Jim	Keller	TetraTech
Elizabeth	Leary	Boston University
David	Loutzenheiser	MAPC
Patrick	Marvin	MassDOT Press Office
Harry	Mattison	Task Force Member
Ken	Miller	FHWA
Tom	Nally	ABC
Mike	O'Dowd	MassDOT
Ari	Ofsevit	LivableStreets
Tad	Read	BPDA
Carol	Ridge-Martinez	Task Force Member
Jessica	Robertson	Task Force Member
Mark	Shamon	VHB
Steve	Silveira	Task Force Member
Bob	Sloane	WalkBoston
Margaret	Van Deusen	Charles River Watershed Association
Emma	Walters	Allston Village Main Streets
Jack	Wofford	Task Force Member