

## Integrated Complete Trips Deployment Plan (ICTDP) Training Transcript (11-16-2021)

**Speaker: Deb Curtis**

So, let us take a few minutes to review the program.

Although most of you are already familiar with it.

Next slide, please.

So, this is a high-level summary of the complete trip ITS4US program.

As you can see there are multiple partners involved with this initiative with the goal of deploying innovative and integrated trips to support mobility for all users with a particular focus on underserved communities.

So, as you can see here, this involves the lead ITS Joint Program Office from the US Department of Transportation, but also involves the Federal Highway Administration and the Federal Transit Speaker: Deb Curtis This will allow us to take revolutionary steps to integrate advanced technologies, especially those that enable Administration. We are looking to make these large-scale deployments that are replicable and address the challenges of planning.

And executing all segments of the complete trip.

We would like to target all users across all modes regardless of location, income, or disability.

Speaker: Deb Curtis

Next slide, please.

So, we have 5 program goals.

And these program goals are spur high impact, integrated complete trip deployments nationwide, this first goal is to assist the transportation industry in tackling the difficult challenge of providing complete trips for all travelers nationwide by streamlining and expediting solution development.

Through pilot deployment.

Yes.

High impact, replicable integrated solutions developed by these pilot deployments.

Will reduce the cost of future deployments of these critical personal mobility enhancements.

The second goal is to identify needs and challenges by populations.

The needs and of the communities to support mobile mobility options for all travelers, regardless of location, income, or disability are important populations within each community have different needs and challenges for accessing transportation options to improve their quality of life.

The third goal is to develop and deploy mobility solutions that meet user needs.

This will allow us to take revolutionary steps to integrate advanced technologies, especially those that enable adaptive and assistive transportation technologies into the management and operations of the transportation network, including non-motorized modes.

Here we are.

Our goal is to engage key partners within the federal government.

The research community, stakeholder organizations, and private industry to support development of potential solutions for all travelers.

The fourth goal is to quantify and evaluate the impact of the integration of these advanced technologies strategies and applications.

The improvement of safety and mobility of all travelers, quantified impact support, communication of technology benefits to future deployers.

And decision makers.

And finally, the fifth goal is to determine which technologies, strategies, applications and institutional partnerships demonstrate the most potential to address identified barriers to providing complete trips to all travelers in a variety of communities and build environments.

This we also.

The goal is to disseminate the lessons learned from replicable solutions developed by the deployment sites to catalyze additional deployment.

The systems engineering process that we are going to talk about is critical to all of these goals.

Next slide, please.

The US Department of Transportation has awarded five teams with Phase One funding to support the development of their deployment concepts. These five deployment sites include the University of Washington, California Association of Coordinated Transportation, Heart of Iowa Regional Agency.

ICF International in Buffalo, NY, and the Atlanta Regional Commission. Next slide please.

There are three deployment phases, and one post deployment phase.

Participants are currently in the first phase concept development where they will develop their ideas to ensure future success in later phases.

They will test and evaluate their projects.

The deployments are expected to sustain operation for at least five years after the program is completed. Next Slide Please.

**Speaker: Kate Hartman**

I am Kate Hartman. I'm the chief for the research, evaluation, and program management team in the ITS Joint Program Office at the USDOT.

Next slide.

So here's the agenda. It's actually two tasks briefed in one presentation. The task 13 with the plan and then the task 14 with the overview.

So I'm going to go over the integrated complete trip deployment plan template, the refined phase one approach, and then the phase two and three technical approaches with schedule and cost estimates. I'll also talk a little bit about the public webinar.

So let's go to the next slide.

So I guess the easiest way to talk about the integrated complete trip deployment plan and the presentation is that this is really your phase 2/3 technical proposal with an oral presentation.

There's a third deliverable which is a public facing webinar and I'll talk about the difference between that public facing webinar and the oral presentation as we move along. But really you are to take the previous 12 plans integrated into a holistic view of what you're going to do for phase two and three and submit that as your technical proposal for phase two and three.

Next slide.

Now I'll get into some details here.

Again, the good news is that the plan is designed to support the development of the response to the future NOFO.

The information from the ICTDP can be used directly for the NOFO phase two and three, saving sites resources.

The plan that you will submit for task 13 allows the sites to get feedback from the USDOT before submitting their final NOFO response.

And all the work on tasks 1 through 12 will be summarized and integrated into this report.

So the ICTD Plan summarizes the refined deployment concept that you've been working on in phase one, and it sets forth the high-level phase two (design, build, and test) and phase three (operate, maintain, and evaluate) schedule. And this at the at the high-level, non-proprietary level will be shared with the general public through a webinar.

Next slide.

So this is not an intuitive slide, so I'm going to try and walk you through it, but we will be happy to answer questions to try and clarify.

So phase one of the plan that is submitted is not required to be 508 compliant and you can see the four different sections.

Section 1, which is refined phase one deployment concept, section 3 which is phase two and three deployment schedules, and then section 4 which is phase two and three deployment cost estimates have a page limit of 40 pages.

There is a total page limit of 75 pages, so if you maxed out the 40 on section one, three, and four, you would have 35 pages for Section 2.

However, that's a ceiling, not a floor, so if you want to use fewer pages on section one, three, and four you can and use more pages onto on section 2. Just the entire plan needs to be within the 75-page limit.

And when you submit the final technical application, it will need to be 508 compliant.

Next slide.

So you can see this is a slide we've used a lot. You can see the interdependencies. It's basically everything you have worked on so far that folds into the ICTDP.

And then the outcome of the actual plan that you submit you will be the deployment briefing. Yes, task 14 and I'll get into some more details about that later.

Next slide.

So here are the three deliverables from task 13. It's a word version so non 508 compliant on the integrated complete trip deployment plan. You will get comments back and there will be a final complete trip deployment plan. And from this plan you will do a public facing webinar on your concepts for phase two and three.

Again, more details as we get into this. Just to note, the documents here are going to be treated as actual technical proposals and will not be released to the USDOT.

Next slide, please.

So the major components of this plan are the refined phase one deployment concept. So basically what you've learned from going through these last fourteen, fifteen months will be revised and you will make sure that you know you've got the concept to address the challenges and the expected outcomes.

And then there will be the second part which is the phase two and three technical approach. So it will be a summary of what you plan to do in phase two and three, along with which you will also submit a schedule and a cost estimate.

So the deployment schedule is at a high level with some supporting information. Remember you will send in a draft and USDOT will comment and so you have time to refine it.

And then also a cost estimate and it's intended to provide information and guidance regarding the cost allocated for the projects by phase and task.

Next slide please.

So digging even deeper into some of the ICTDP sections.

Next slide.

So section 1, the deployment concept.

We're going to be drawing on all materials again prepared in the previous tasks, and it should concisely summarize the problem we're solving. Make sure that you have that identified and that you are actually addressing that.

The overarching deployment concept. That will address these challenges and your expected outcomes.

Also, we would expect to see data to be generated by your system. The key measures of performance and the methods of assessing these impacts on an ongoing basis. The steps that you're going to take to ensure the safety and privacy of participants. The steps you plan to take to ensure the system security and any and all expected open-source software and other supporting contributions expected from the system design and development process.

Again, none of this should be surprising to you at this point, and you should basically have been or are working on all of this information.

Next slide.

So the phase one deployment concept should also address a summary of the site stakeholders and their needs that have been identified through the systems engineering process.

The deployment objectives, applications, and services provided system performance measures used to characterize the impact of the system deployment. And site boundaries and the proposed location of key deployment elements map.

For example, because I know that there are some sites that don't have all of the actual physical locations locked down, you're going to need that for phase two and three.

Next slide.

Again, section one will have the refined phase one deployment concept where you estimate the numbers of participants, vehicles, mobile devices, service area dimensions, roadside wayside infrastructure elements, and other relevant countable deployment elements envisioned as a part of your at scale deployment.

We're not going to hold you to exactly the number, but you should have a pretty good idea through the process that you have been and are going through now in planning and so this is really your chance to change the initial scale of your project to match what you found out during your planning and adjust the scheduled budget and staffing.

This could be larger or smaller in terms of the deployments or engagements. Less or more complex, and or scaled back features. So again, it's got to be within a tolerance range, and we'll get to that a little bit later.

Next slide, please.

So we also expect to see details about your team, organization structure, the key personnel, any changes in your organization from phase one, and a summary of financial and organization models that you plan to use to sustain the program or the project for a minimum period of five years after the program is completed and there are no more federal funds.

I would also like you to highlight any organizational risks, so any critical assumptions and organizational challenges and it should be one page at the most. We're not looking for you to write a thesis on the risk, but to in general identify them.

Next slide.

So section two of the plan should be the phase two and three technical approach. So section 2.1 is an Intro. Section 2.2 is the phase 2 technical approach and for each task pulled from the deployment program you will have the phase two and three task descriptions.

Section 2.3 will have the Phase 3 technical approach. So again in the operation, maintain and evaluate that will be where you talk to the various tasks, A through F.

Next slide, please.

So here is an overall look at what the schedule should look like.

You can see the program management runs the entire length of phase two. Actually it will run the entire length of phase three as well, and then the overlapping of the various different tasks within the phase two and three.

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So 3.1 is the schedule summary. It will include all the milestones from task 12 acceptance testing to be observed by USDOT staff prior to approval to move to phase three.

Basically there will be a gate in there to make sure that things are working. USDOT will not consider a phase two deployment schedule in excess of 24 months. So you have up to 24 months but you also have less than 24 months, but you still are expected to deliver on all the tasks.

Also, please note we'll provide a sample phase two deployment schedule which a site can use if they want, but you are also welcome to develop your own. Again a hard 24 month total for phase two.

Next slide please.

So section 3.1 is the phase three schedule summary, operate and maintain outreach activities well. It will include the outreach activities and like I said, ongoing program management reporting. We'll be tracking deployment milestones of 20% to 50%, 80% and 100% at scale deployment.

It's so that's 20% of your widgets, people, things deployed, and so you just need to make note that you will be tracking those.

USDOT will not consider a phase three deployment schedule with a duration of less than 18 months. So phase two can't last more than 24, phase three must last at least 18 months. So please work that into whatever your plan is.

Again, USDOT will provide a sample phase three deployment schedule, which the sites can use if they want, but you're welcome to develop your own within the constraints of the months.

Next slide.

So you can see in the red we're still in phase one as everyone is well aware and that we do have this phase gate between going on to phase two and then into phase three as I stated, so the phase gate between one and two is your plan and your oral presentation acceptable to the USDOT as technical proposals and then the gate between phase two and phase three is that the system is safe and operates as it was designed.

OK, next slide please.

Again in phase two and three we want to see schedule risks, so this section would summarize the most critical schedule related assumptions and risks and any sort of planned countermeasures. So again maximum one page.

Next slide, please.

So the 4.1 is the cost summary section on the plan and the projected cost estimates at a high level should be in here and is intended to provide information and guidance for other deployers regarding costs allocated for the project by phase. Detailed cost elements should not be included.

Two tables should be in this section. Phase two and three monthly cost report table in the template and summarized by phase cost by area of expenditure, expenditure, labor, material, travel equipment, software development, system integration.

Whatever your project is using should be summarized on the cost by that area of expenditure over the duration of the project.

USDOT will not consider phase two and three cooperative agreements in the excess of the total federal funding estimated for these phases submitted as part of the original phase one proposal.

However, a higher estimate will be considered if the recipient provides the access to federal funding via cost share. So there may be some questions about that that we will handle in the chat.

So please go on to the next slide.

So here is an example of what a monthly cost report table should look like.

The cost share the federal share of the total and the various different tasks for phase two and then for phase three.

So this would be the estimate that we would expect to see with a total that should not exceed the phase one unless you are proposing additional cost share.

Next slide, please.

So this task three is the deployment plan of the webinar for the public.

So again, task 13 has these two components.

One is the written technical proposal and then that will be used to inform the slides for a public facing webinar.

Next slide please.

So after you get your site COR's concurrence on your plan, the site will begin to develop their public webinar.

Again, USDOT can provide the template and schedule. The webinar will describe your comprehensive deployment concept for interested internal and external stakeholders and this will be a chance to inform and engage the broader deployment community.

You will again coordinate with your COR in scheduling, promoting, and delivering this webinar. So the same as we've been doing for the other webinars. There is no change here.

Next slide please.

So this is the other briefing, and this is what can be considered to be the oral presentation to USDOT.

Next slide, please.

So there will be an oral presentation. We will expect a draft of the PowerPoint and a finalized version in PowerPoint and PDF. And again these will not be released to the public. They are for internal USDOT consideration only.

Next slide, please.

So the summary. The deployment readiness summary briefing process, the sites present orally their draft deployment readiness summary briefing to the USDOT.

Again, this is not the same as the public facing webinar that you were required to do for task 13.

The USDOT will provide comments on the material soon after the briefings are completed. Sites will then update their briefings based on USDOT comments into the PowerPoint and they will submit it back to the USDOT. USDOT will again comment on the updated slide deck.

Assuming that all comments are resolved, sites will do a final update of the slides. Based on these comments and deliver a 508 compliant final deployment readiness summary briefing to the USDOT. We will expect the final version in PowerPoint and PDF.

Next slide please.



So here are some final thoughts on here.

If you would like to move ahead, please on the slides here.

There are basically some challenges that you may be thinking of. And these are ones that USDOT thought we would throw out there and see if we could provide some easy solutions. I'm sure you've got other challenges and other issues as I've been watching the questions come in.

So now that phase one is complete, the deployment concept has evolved and the full extent of required activity in phase two and three is better understood.

What can be done if the full concept is now more expensive than the original BA submittal budget?

So you have two options.

First, the cap on the phase two and three budget is restricted to the federal share only. Local share may be increased to cover the additional costs, so if you can get more cost share because your proposals have increased, that's perfectly acceptable.

Secondly, you can adapt the scope of the effort to fit within the target budget. The scope of the phase two and three effort is detailed in the at scale deployment features defined by the site.

So here's another issue. With all the steps and testing required in phase two, it's going to be difficult to complete the work in 24 months.

So the possible strategy that USDOT would suggest is to clearly identify in the ICTDP the number and type of deployment areas before committing users and locations. Look at options to scale back deployments to meet USDOT agreed upon numbers and schedule.

So 24 months is hard and fast, and there may be some changes that you will need to do if you get into your phase two planning and see that you're running up against the tough deadline.

Next slide.

Issue 3 that some of you may consider is that your approach is to use an agile development process, but the deliverable schedule follows a more traditional waterfall systems engineering process. So what possible strategy could you use?

You could adapt your schedule to match the approach outlined in your site SEMP. All deliverables are required, but the schedule should be adapted to reflect the way the site will be conducting the work in phase two.

Meaning if you are going to follow an agile approach, that's fine. You still need to deliver all the deliverables that are required, but they can be done in an agile process.

Ok, next slide.

So here are some useful references. Folks will get the slides, so don't bother writing it down or screenshotting it.

But basically it's information from the CV pilots, so you can just go there if you are impatient for the slides.

All three of the CV pilots did that and then same thing with the readiness summaries.

We've also published all the readiness summaries for the three CV pilot sites, so you can take a look at what accepted documents have looked like in the past.

Ok, next slide.

As always, here are the key contacts.