



U.S. Department of Transportation

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ITS4US

The logo for ITS4US, where the number '4' is stylized as a blue and white graphic with a dashed orange line and two red location pins, suggesting a route or journey.

Kick-Off Session 3:
Concept Development Overview
Tasks 7-14

February 25, 2021

Objectives of Day 2 and 3

- Provide sites with the USDOT perspective on the ITS4US-Complete Trips Deployment Project Phase 1 Deliverables
 - Organized by Tasks outlined in the BAA
 - Review of the BAA directions in each topic area
 - Assessment of how each topic may influence multiple tasks/deliverables
 - Note top challenges and potential strategies to address issues
 - Identify key references and resources for USDOT technical assistance
- Help sites to consider where help is most needed—and to direct USDOT technical assistance resources to these areas
- **Our Tactics For Today:**
 - USDOT will track issues/challenges, but our schedule does not allow for long technical discussions
 - Issues/challenges list brought to first bi-weekly meeting for disposition

Overview of Agenda

- **Walkthrough Tasks 1-14 in order**
 - Wednesday, February 24 - Tasks 1-6
 - Thursday, February 25 - Tasks 7-14

- **In each Task, address one or more topic areas**
 - USDOT provides 15 minutes of perspective in each topic area
 - Structured Q&A for 10 minutes for each task
(might cover multiple topics, so remember your questions!)

- **For each topic area, USDOT will provide:**
 - Training presentation
 - Annotated document template

These documents do not replace or alter the work statements defined in the Broad Agency Announcement; rather they provide technical assistance to the deployers in completing the tasks and deliverables described in the BAA.

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**Task 7:
Enabling Technology
Readiness Assessment**



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Enabling Technology Readiness Assessment



Task 7

A systematic, metrics-based process that assesses the maturity of, and the risk associated with, critical technologies to be used in the project.

Deliverables

1. Draft Enabling Technology Readiness Assessment – Kick-Off + 27 weeks
2. Final Enabling Technology Readiness Assessment – Kick-Off + 38 weeks

Enabling Technology Readiness Assessment Major Components



Task 7

Framework

Determining and document the technology readiness framework to be used that is similar to ISO Standard 16290 Space systems.

Identification of Technologies

Identify technologies that will be utilized to meet the user needs and system requirements identified within the ConOps and SyRS.

Evaluate

Steps to evaluate the technology based on the Subject Matter Experts (SMEs), data, test results and the resources.

Risk Assessment

Make a risk assessment for their potential solutions and identify how they plan to mitigate high risk technology elements.

TRL Level

Identify the Technology Readiness Levels (TRLs) of that specific technology based on the evolution and risk assessment.

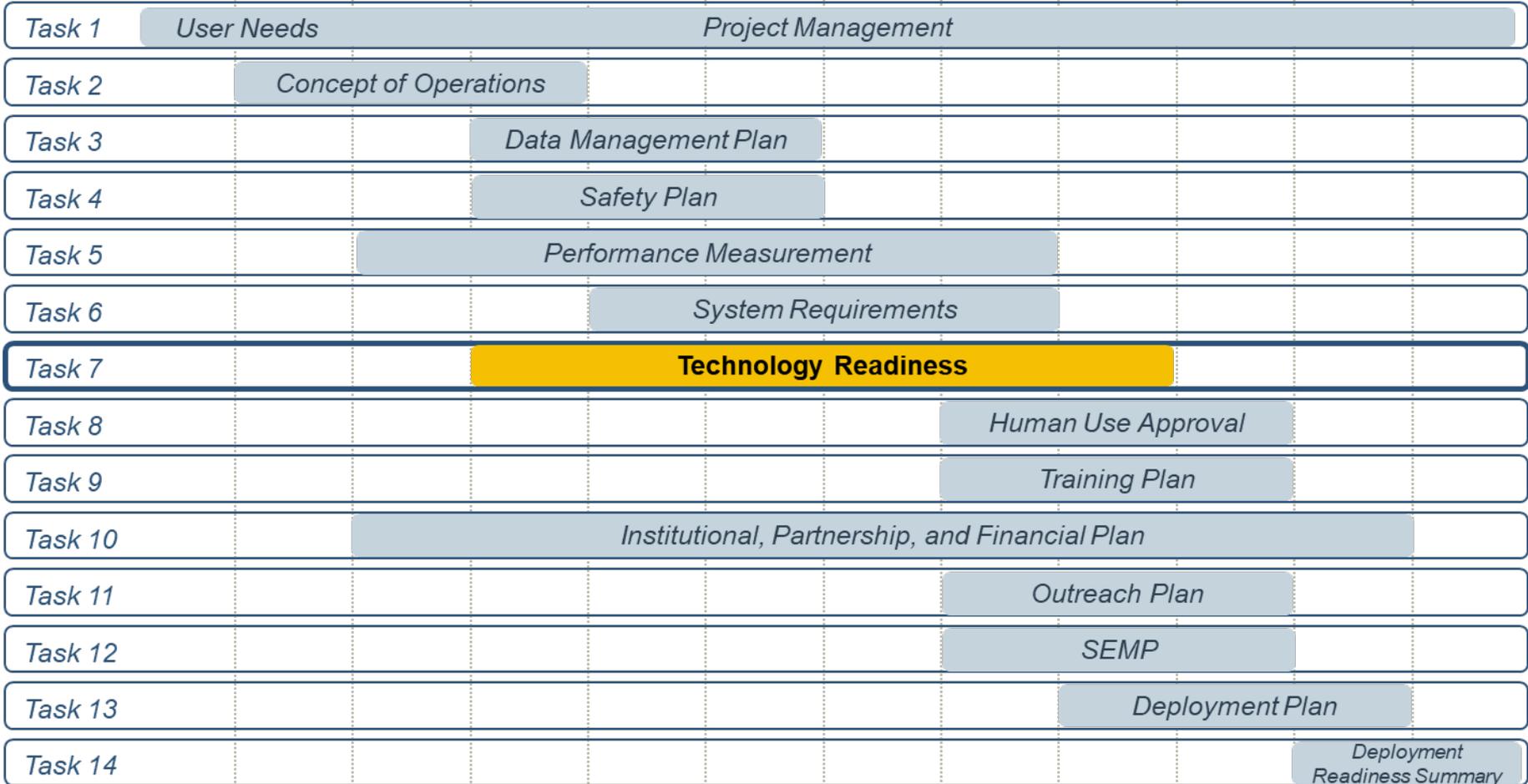


Technology Readiness Schedule

2021

2022

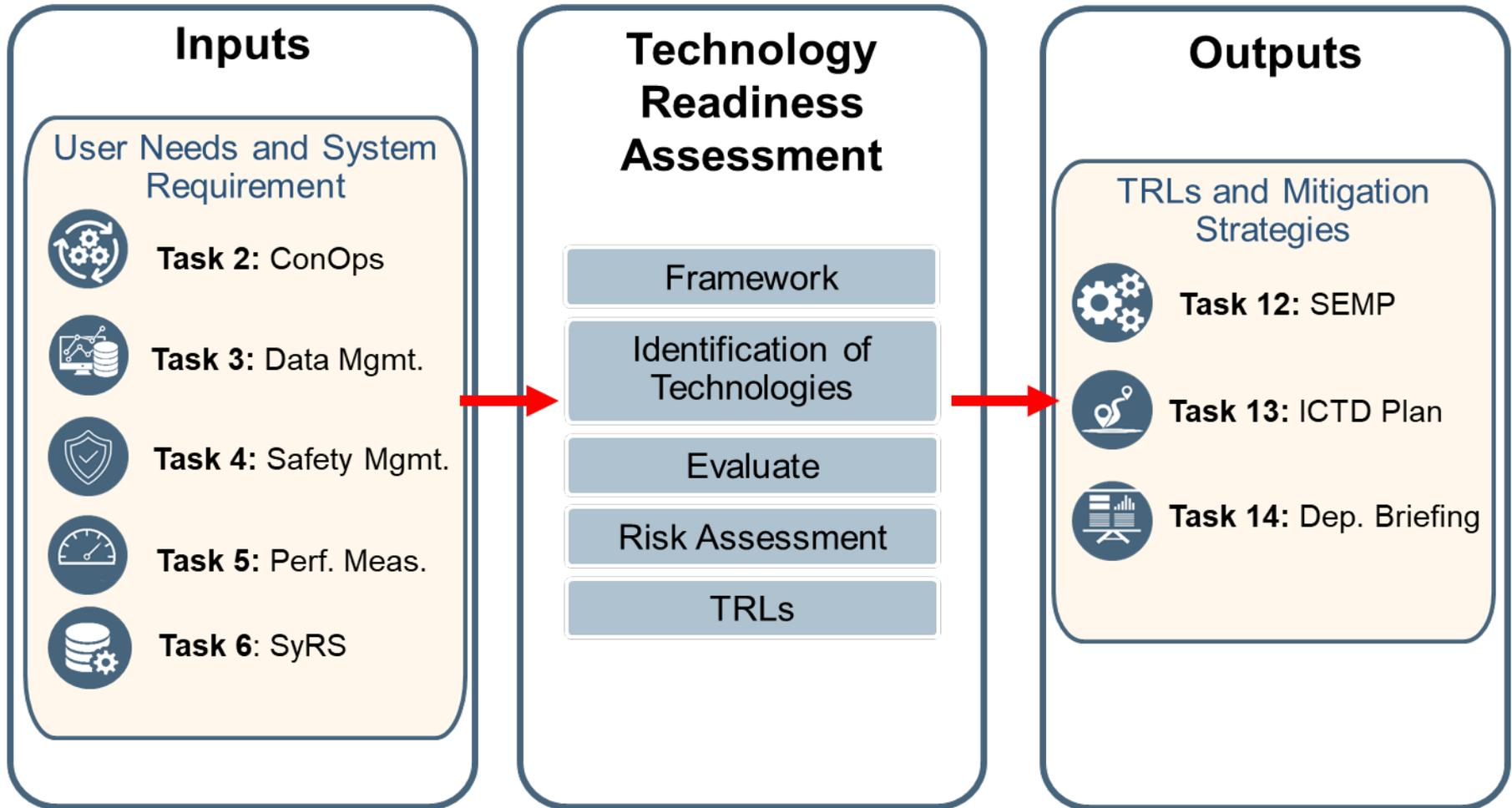
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Enabling Technology Readiness Assessment Interdependencies



Task 7





Enabling Tech Challenges

▪ One Size fits All

- **Issue:** Using set TRLs that do not fit the project's conditions.
- **Possible Strategy:** When determining TRLs, have a process that considers the conditions of the project that will be using the technology.

▪ Limited TRL Life

- **Issue:** TRL values are only valid for a limited period.
- **Possible Strategy:** Ensure the evidence used is current and TRLs may need to be re-evaluated again later in the project.

▪ Evolution Bias

- **Issue:** Each group have their culture, perspective, expectation or bias that can influence TRL results.
- **Possible Strategy:** When possible have independent sources and evaluators review the TRL results.



Enabling Tech Challenges Continued

▪ Evidence Interdependences

- **Issue:** TRL evidence may have dependencies, functions, and interaction with other technologies that are outside of the program.
- **Possible Strategy:** Limit TRL evidence that have high dependencies on other technologies outside of scope and ensure your mitigation strategy address this issue.

Enabling Technology Readiness Assessment Technical Support Summary



Task 7

- Proposed Technical Support Materials

Schedule Item	Date
Task 7 Training	TBD
USDOT-provided Task 7 Deliverable Template	TBD

- Get help by contacting your federal site lead/site COR or reach the Technology/Deployment Lead Kate Hartman at Kate.Hartman@dot.gov

Enabling Technology Readiness Assessment Key References



Task 7

- ISO Standard 16290 Space systems - Definition of the Technology Readiness Levels (TRLs) and their criteria of assessment and by NASA https://www.nasa.gov/directorates/heo/scan/engineering/technology/txt_accordion1.html
- US Government Accountability Office (GAO) Best Practices - Technology Readiness Assessment Guide <https://www.gao.gov/products/GAO-20-48G>
- FHWA Technology Readiness Level Guidebook <https://www.fhwa.dot.gov/publications/research/ear/17047/17047.pdf>

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Task 8: Human Use Approval



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Human Use Approval

Describes the planned extent and nature of the project relating to research involving human subject participants (i.e., a summary of your Institutional Review Board (IRB) application) and documents the IRB application / process covering the project and Phase 1 outcome (IRB preliminary or full approval).

Deliverables

1. Draft Human Use Approval Summary – Kick-Off + 40 weeks
2. Final Human Use Approval Summary – Kick-Off + 44 weeks



Human Use Approval Major Components

Preparation

Review IRB process, identify and document planned components of project relating to human use approval.

IRB Application

Identify IRB to oversee the project and complete application for IRB approval.

Human Use Approval Summary

Develop Human Use Approval Summary documenting outcome, status, and future steps.

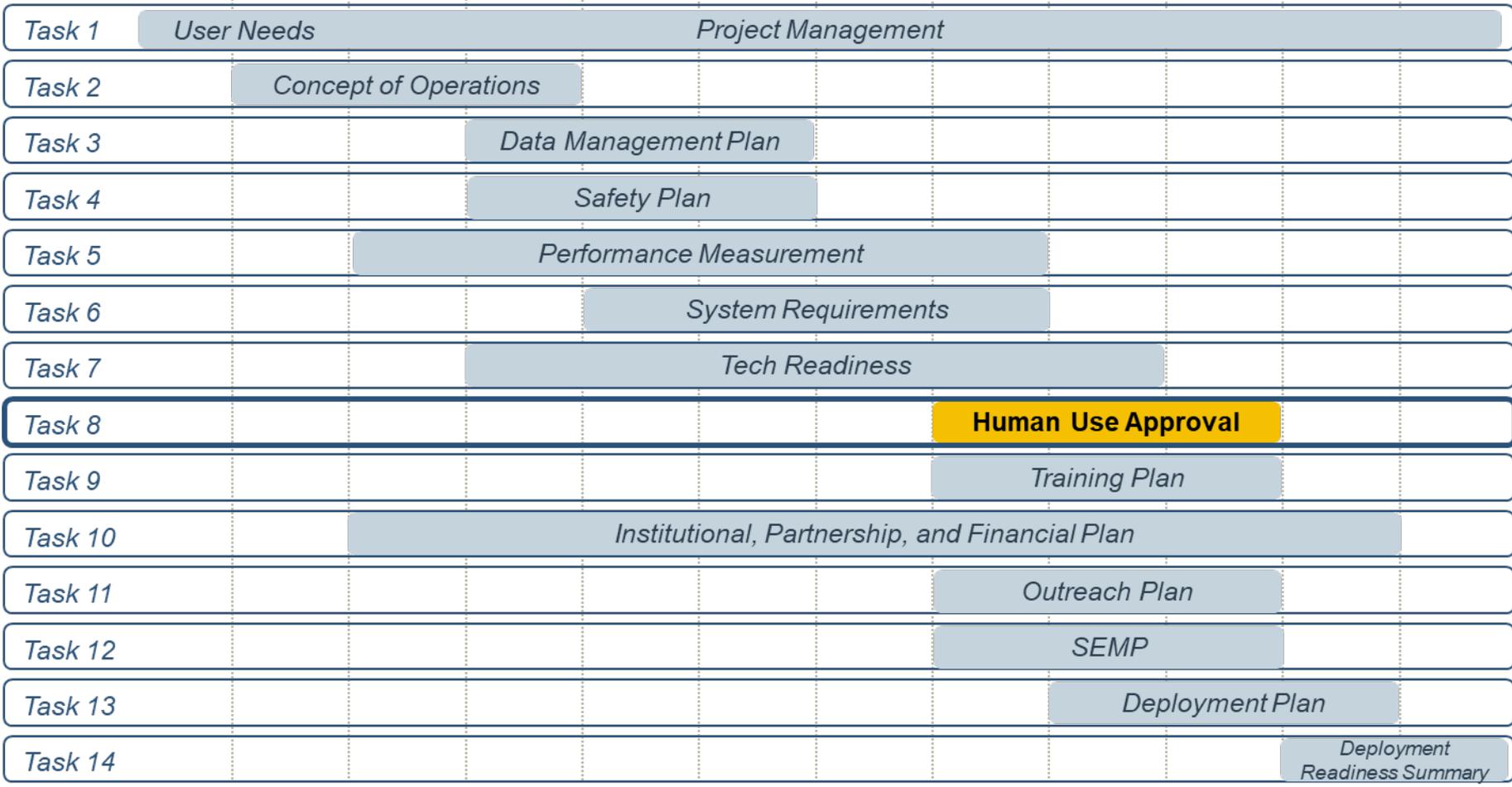


Human Use Approval Schedule

2021

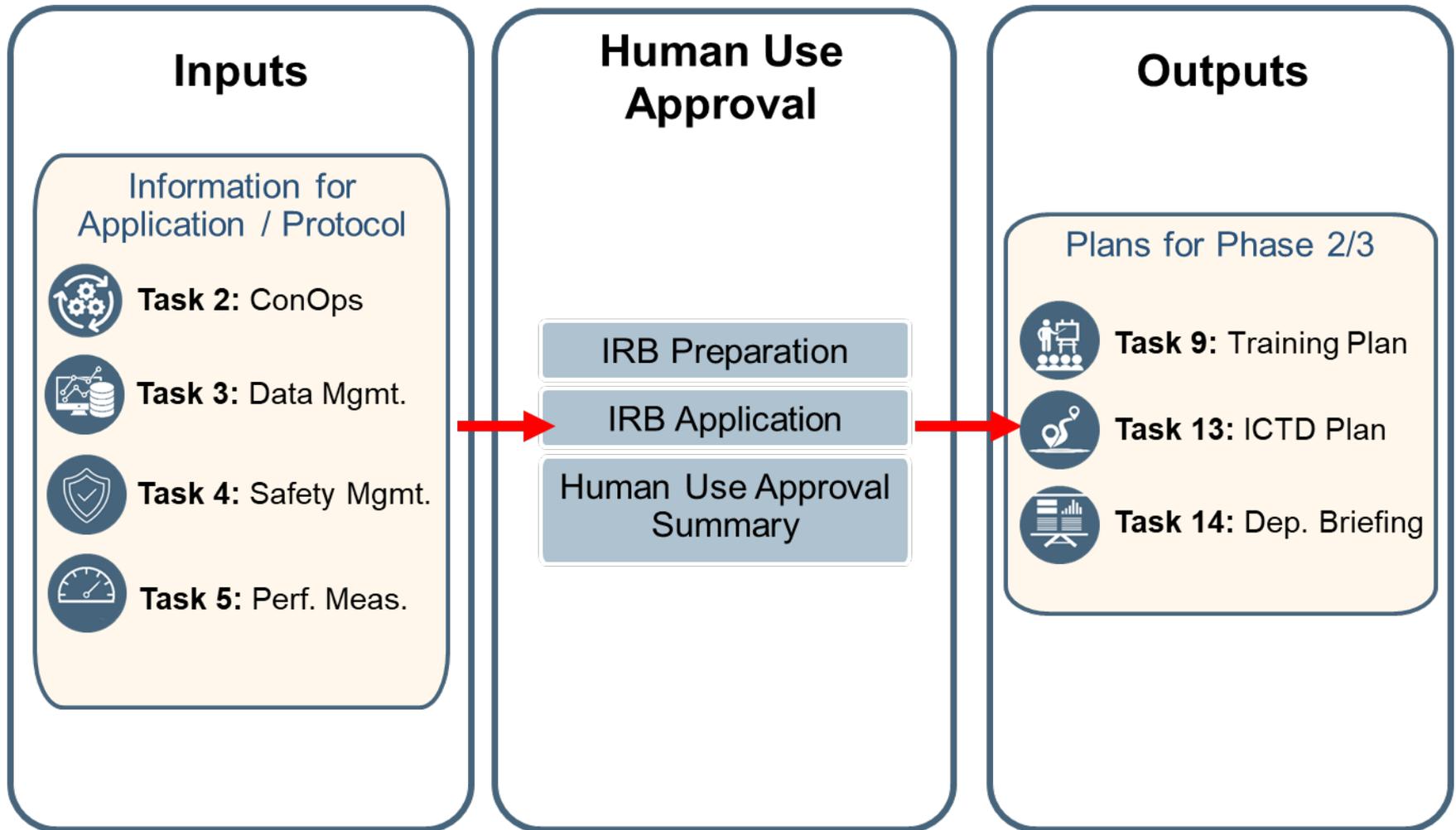
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Human Use Approval Interdependencies





Human Use Challenges

▪ No available “internal” IRB

- **Issue:** No members of the project team have an “internal” IRB.
- **Possible Strategies:** Search for similar institutions/organizations that have an IRB willing to approve your research project (“external” IRB).

▪ IRB Process Affects Schedule

- **Issue:** IRB continues to request additional information or requires additional time.
- **Possible Strategies:** Initiate effort early to identify and engage with IRB to understand and define project components that need to be included in protocol. Seek information about the approval process, take on-line training, and request assistance with approval as needed. Identify team member responsible for periodic check in with IRB.



Human Use Challenges Continued

▪ Conflicts with Other Tasks

- **Issue:** Activities in other tasks are in conflict with description provided in IRB application.
- **Possible Strategy:** Determine potential conflicts and interdependencies across tasks at early stage and plan coordination meetings with relevant personnel to ensure consistency.

Human Use Approval Technical Support Summary



Task 8

- Proposed Technical Support Materials

Schedule Item	Date
Task 8 Training	TBD
USDOT-provided Task 8 Deliverable Template	TBD
Performance Measurement/Human Use Roundtable (focused on Tasks 5, 8, and 9)	TBD

- Get help by contacting your federal site lead/site COR or reach the Human Use Approval Lead Bob Sheehan at Robert.Sheehan@dot.gov



Human Use Key References

- *Code of Federal Regulations, Title 49 – Transportation, Part 11 – Protection of Human Subjects*, October 2019, <https://www.govinfo.gov/content/pkg/CFR-2019-title49-vol1/pdf/CFR-2019-title49-vol1-part11.pdf>
- US Dept. of HHS, Office for Human Research Protections (OHRP), <https://www.hhs.gov/ohrp/>
- US Dept. of HHS, *Revised Common Rule Educational Materials*, <https://www.hhs.gov/ohrp/education-and-outreach/revised-common-rule/index.html>
- Required Assurance for the Protection of Human Subjects, <http://www.hhs.gov/ohrp/assurances/index.html>
- *USDOT Guidance Summary for Connected Vehicle Deployments: Human Use Approval*, July 2016 <https://rosap.ntl.bts.gov/view/dot/31551>

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Task 9: Participant Training and Stakeholder Education Plan



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Participant Training and Stakeholder Education Plan



Task 9

Describes the needs and plans for recruitment and training of all populations of travelers and other individuals participating in the deployment, including caregivers as appropriate and any staff associated with deployment, operations and maintenance.

Deliverables

1. Draft Participant Training and Stakeholder Education Plan – Kick-Off + 41 weeks
2. Final Participant Training and Stakeholder Education Plan– Kick-Off + 45 weeks

Participant Training and Stakeholder Education Plan Major Components



Task 9

Training Needs

Identify needs for training based on deployment plans, Human Use Approval and Safety Management Plan.

Stakeholder Identification

Partition Stakeholder Registry into groups that require training, vs. groups that provide supporting input, or require outreach.

Recruitment

Describe plans for soliciting potential participants from relevant groups, based on planned IRB protocol.

Training

Discuss training approach and materials for each relevant group and deployment area, for participants and other roles.

Stakeholder Education

Inform stakeholders about scope and goals of deployment; attract interest in involvement, ensure sustainability of deployment.

Participant Training and Stakeholder Education Plan Approval Schedule



Task 9

2021

2022

Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb

Task	2021	2022
Task 1	User Needs	Project Management
Task 2	Concept of Operations	
Task 3	Data Management Plan	
Task 4	Safety Plan	
Task 5	Performance Measurement	
Task 6	System Requirements	
Task 7	Tech Readiness	
Task 8	Human Use Approval	
Task 9	Training Plan	
Task 10	Institutional, Partnership, and Financial Plan	
Task 11	Outreach Plan	
Task 12	SEMP	
Task 13	Deployment Plan	
Task 14	Deployment Readiness Summary	

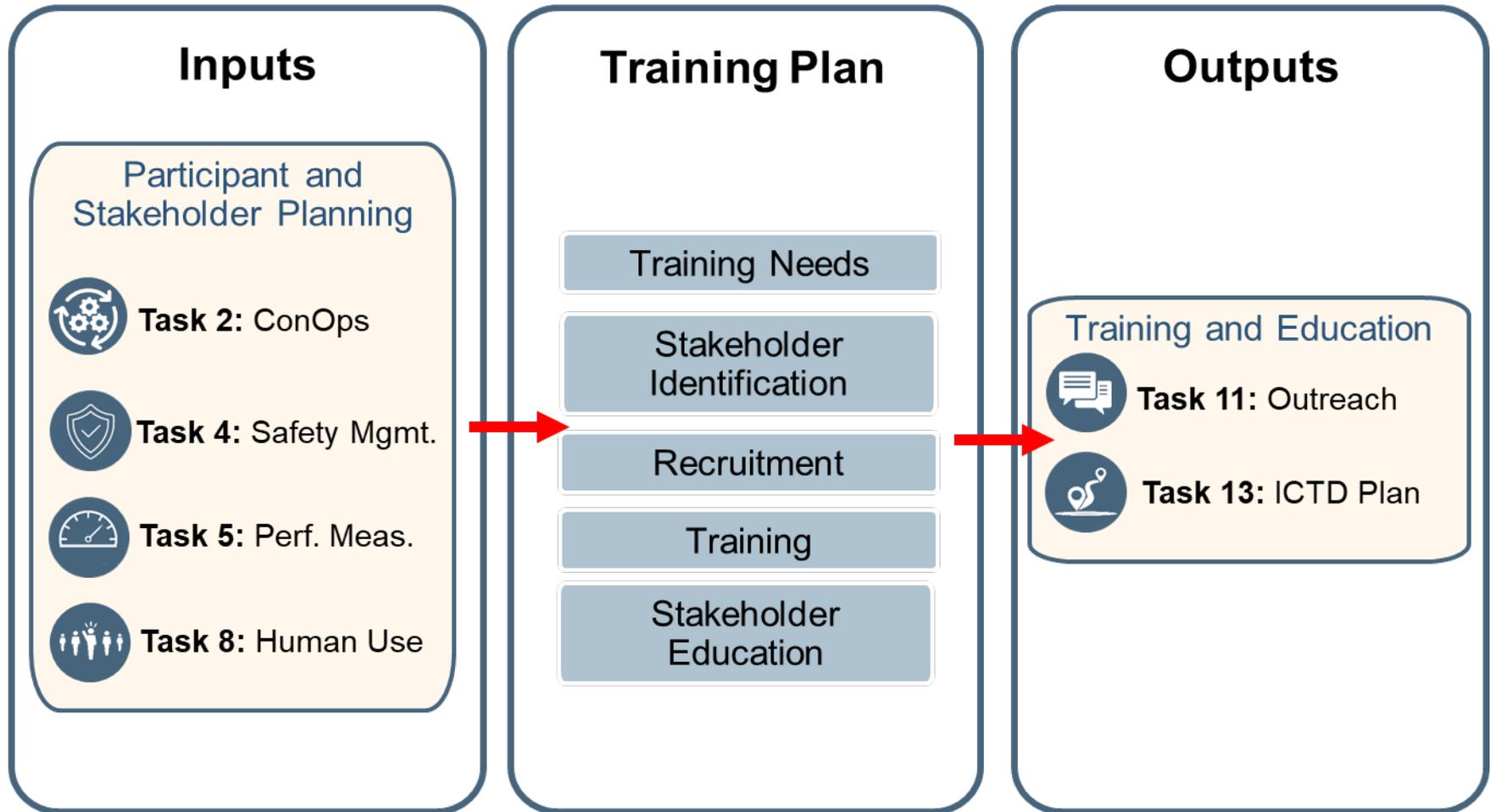
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Participant Training and Stakeholder Education Plan Interdependencies



Task 9





Participant Training Challenges

- **Coordination of IRB process and recruiting participants**
 - **Issue:** Participant candidates cannot be recruited unless IRB-cleared.
 - **Possible Solution:** Start the IRB process as soon as possible to understand needs.
- **Recruiting particular participant groups**
 - **Issue:** Participants with certain characteristics will be needed (e.g., with different mobility needs)
 - **Possible Solution:** Work with stakeholder groups to identify appropriate media or other methods, consistent with IRB protocols for vulnerable populations.



Participant Training Challenges Continued

▪ Retaining participants

- **Issue:** Participant turnover requires additional training.
- **Possible Solution:** Plan for potential participant attrition and possible need to include and train new participants every so often.

▪ Sustaining training over time

- **Issue:** Retraining system knowledge with passage of time and new staff.
- **Possible Solution:** Plan for integration of operations and maintenance training into regular training processes.

▪ Training Materials in Accessible Formats

- **Issue:** Materials are not developed in the accessible format for all participants.
- **Possible Strategy:** Identifying and understanding the participants needs in advance, and ensuring that all materials are developed in the appropriate accessible formats to any potential participant (e.g. 508 compliant, closed captioning, ASL, large print/braille, multiple languages).

Participant Training and Stakeholder Education Plan Summary



Task 9

- Proposed Technical Support Materials

Schedule Item	Date
Task 9 Training	TBD
USDOT-provided Task 9 Deliverable Template	TBD
Performance Measurement/Human Use Roundtable (focused on Tasks 5, 8, and 9)	TBD

- Get help by contacting your federal site lead/site COR or reach the Training Lead Dawn Sweet at dawn.sweet@dot.gov



Participant Training Key References

- ITS Professional Capacity Building Program website <https://www.pcb.its.dot.gov/>
- USDOT Guidance for Connected Vehicle Deployments: Participant Training and Stakeholder Education, July 2016 <https://rosap.ntl.bts.gov/view/dot/31552>
- National Highway Institute, Resources for Developing Instructor-Led Training & Resources for Developing Web-based Training, https://www.nhi.fhwa.dot.gov/resources/intro_developing.aspx
- Complete Trip Webinar #2: Engaging Stakeholders, Developing Partnerships, and Following the Planning Process, February 2020 https://www.its.dot.gov/its4us/pdf/its4us_webinar_2.pdf

BREAK

12:30PM – 12:50PM ET

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**Task 10:
Institutional, Partnership, and
Financial Plan (IPFP)**



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Institutional, Partnership, and Financial Plan



Task 10

Documents the stakeholder/partnership agreements necessary for the successful deployment and operation of the Complete Trip Concept. The IPFP shall include a practical operations and management agreement for Phase 3 and beyond, including feasible financial models.

Deliverables

1. Draft Institutional, Partnership and Financial Plan – Kick-Off + 42 weeks
2. Final Institutional, Partnership and Financial Plan– Kick-Off + 46 weeks



IPFP Major Components

Partnership Status Summary

Document the current status and plans for agreements, contracts and subcontracts among partner organizations.

Operations and Management Concept

Institutional structure and plan for operating and managing the deployment, with financial models for Phase 3 and beyond (+5 yrs.).

ADA Transition Plans

Disclose the status and projected development path of any/all ADA Transition Plans for each public sector agency (deployment partner).

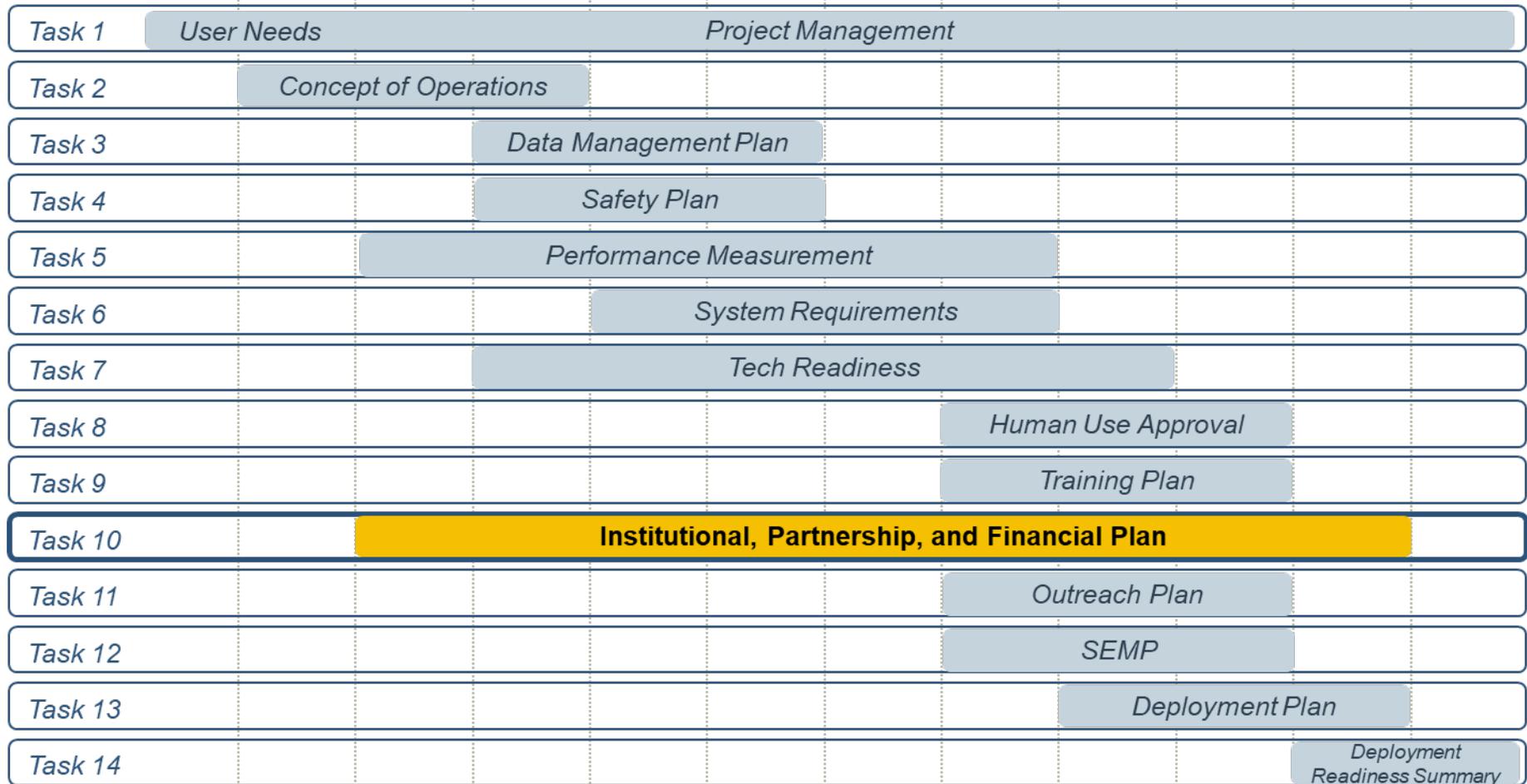


IPFP Schedule

2021

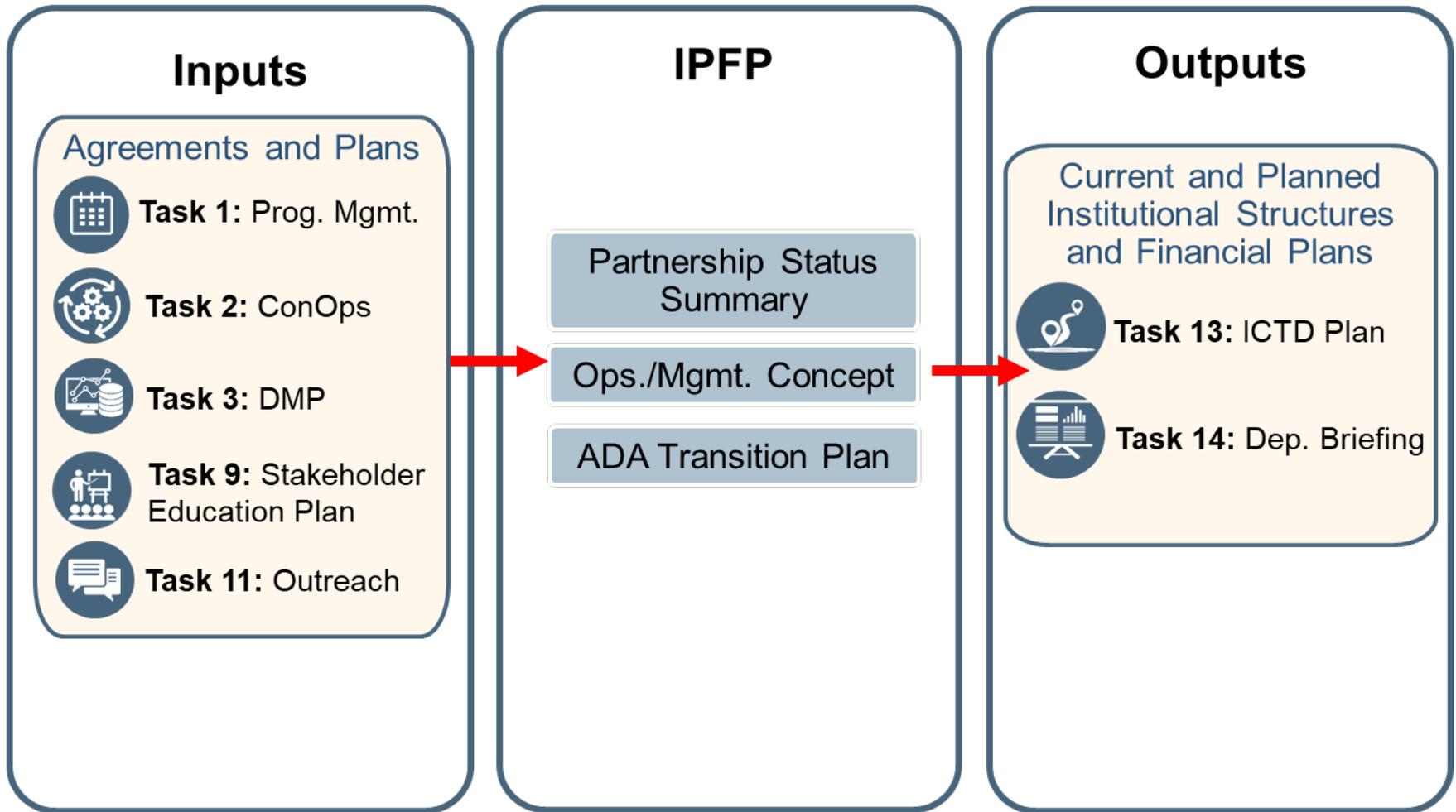
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IPFP Interdependencies





IPFP Challenges

- **Uncertainty associated with institutional relationships**
 - **Issue:** Large uncertain costs and schedule delays can arise due to institutional issues such as reliance on ability of certain vendors/partners to deliver.
 - **Possible Strategy:** Regularly assess concentration of project's reliance for each vendor/partner and adequacy of risk controls in addition to contracts. Set out mitigation actions in Risk Management Plan, e.g., allowing sufficient time for establishing 3rd party data sharing agreements and having a backup strategy.
- **Achieving financial sustainability**
 - **Issue:** Identifying a feasible financial model beyond Phase 3.
 - **Possible Strategy:** Build in assessments of project components at early stages to regularly validate sustainability from critical stakeholder/partner points of view.
- **Evaluating institutional and business models**
 - **Issue:** Lack of a straightforward means to choose business models.
 - **Possible Strategy:** Consult with other agencies with similar experience and review documented successes and lessons from past projects. Ensure project stakeholders are involved in governance processes and decisions before finalizing.



IPFP Summary

- Proposed Technical Support Materials

Schedule Item	Date
Task 10 Training	04/13/2021
USDOT-provided Task 10 Deliverable Template	04/06/2021

- Get help by contacting your federal site lead/site COR or reach the Partnership Lead Shari Schafflein at shari.schafflein@dot.gov



IPFP Key References

- Complete Trip Webinar #2: Engaging Stakeholders, Developing Partnerships, and Following the Planning Process, February 2020
https://www.its.dot.gov/its4us/pdf/its4us_webinar_2.pdf
- USDOT Guidance for Connected Vehicle Deployments: Institutional and Business Issues and Financial Sustainability, July 2016 <https://rosap.ntl.bts.gov/view/dot/31593>
- Guide to Improving Capability for Systems Operations and Management, SHRP 2 Report S2-L06-RR-2 and S2-L06-RR-1, <https://www.nap.edu/catalog/14513/guide-to-improving-capability-for-systems-operations-and-management>;
<http://www.trb.org/Publications/Blurbs/165285.aspx>
- NCHRP Report 898, A Guide to Developing Financial Plans and Performance Measures for Transportation Asset Management, 2019 <https://www.nap.edu/catalog/25285/a-guide-to-developing-financial-plans-and-performance-measures-for-transportation-asset-management>

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Task 11: Outreach Plan



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Outreach Plan

High-level plan for the management of Outreach activities in the Deployment Phases (Phase 2 and Phase 3), consistent with the Comprehensive Pilot Deployment Plan (Task 13). This plan covers both outreach activities and the accommodation of requests for site visits by media, researchers, and others.

Deliverables

1. Draft Outreach Plan – Kick-Off + 40 weeks
2. Final Outreach Plan – Kick-Off + 44 weeks



Outreach Plan Major Components

Media Strategy

Communication objectives, target audiences, media strategy and actions for local and national press in coordination with the USDOT.

Internal Communication Strategy

Assign Outreach Lead and Spokesperson and communicate how information will be coordinated with the USDOT and other Projects.

Communication Platforms

Outline what platforms will be used for which audiences, how frequently, and how to meet special groups needs.

Marketing Plan

End-to-end professional development schedule with date, activity, audience, outcome, and medium/platform of all deliverables.



Outreach Plan Schedule

2021

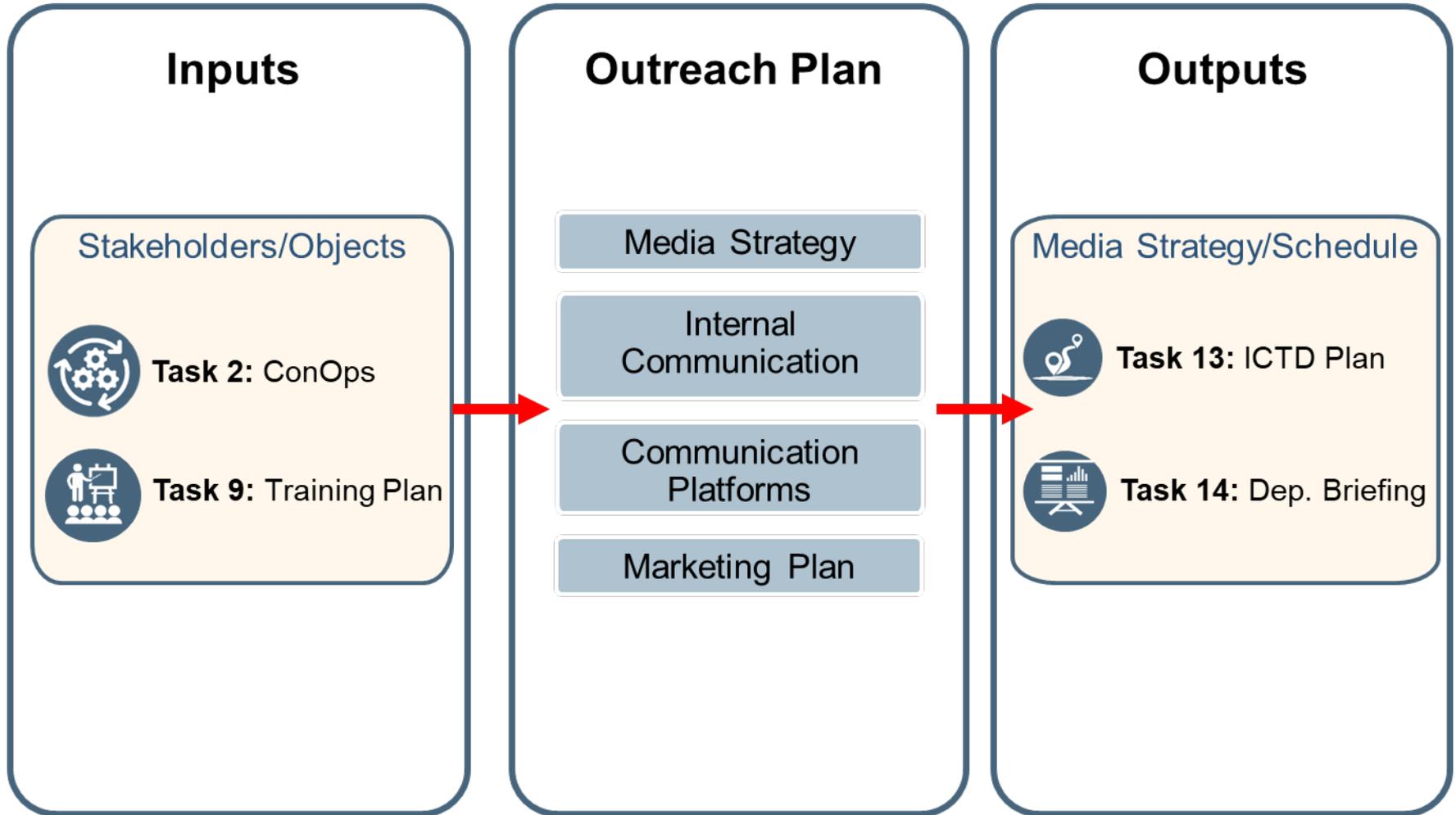
2022

Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
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Task 1	User Needs			Project Management								
Task 2	Concept of Operations											
Task 3				Data Management Plan								
Task 4				Safety Plan								
Task 5				Performance Measurement								
Task 6				System Requirements								
Task 7				Tech Readiness								
Task 8							Human Use Approval					
Task 9							Training Plan					
Task 10				Institutional, Partnership, and Financial Plan								
Task 11							Outreach Plan					
Task 12							SEMP					
Task 13										Deployment Plan		
Task 14										Deployment Readiness Summary		



Outreach Plan Interdependencies





Outreach Plan Challenges

▪ Target Audience

- **Issue:** Sending the right message to the right group.
- **Possible Strategy:** A comprehensive outreach plan identifying target groups and messages to be sent.

▪ Coordination/Consistency

- **Issue:** Coordinating with USDOT/local agencies/media/training to send consistent messages.
- **Possible Strategy:** Dedicated Site Outreach Lead meets monthly with USDOT (by phone) and coordinating with the training task lead.

▪ Sensitive Policy Issues

- **Issue:** Media raises questions related to security, privacy, spectrum etc.
- **Possible Strategy:** Send all policy related media inquiries through the federal site lead/site COR/outreach lead to get approval from USDOT PA.



Outreach Plan Challenges Continued

▪ Accessible Format Materials

- **Issue:** Materials are not developed in formats accessible to all user groups (e.g. 508 compliant, closed captioning, ASL, large print/braille, multiple languages).
- **Possible Strategy:** Understanding user group media needs early and have appropriate stakeholders review the media content before release.

Outreach Plan Summary



Task 11

- Proposed Technical Support Materials

Schedule Item	Date
Task 11 Training	TBD
USDOT-provided Task 11 Deliverable Template	TBD
Cohort Roundtables – Outreach Roundtable (focused on delivery of Phase 1 webinars and Task 11)	TBD

- Get help by contacting your federal site lead/site COR or reach the Outreach Lead Danielle Blackshear at danielle.blackshear@dot.gov



Outreach Plan Key References

- Complete Trip Webinar #2: Engaging Stakeholders, Developing Partnerships, and Following the Planning Process, February 2020
https://www.its.dot.gov/its4us/pdf/its4us_webinar_2.pdf
- Government Section 508 standards <https://www.section508.gov>
- ITS JPO 508 Resources https://www.its.dot.gov/communications/508_guidance.htm
- A Guide to Interacting with People who have Disabilities
https://www.dhs.gov/sites/default/files/publications/guide-interacting-with-people-who-have-disabilities_09-26-13_0.pdf
- Communicating With and About People with Disabilities
<https://www.cdc.gov/ncbddd/disabilityandhealth/materials/factsheets/fs-communicating-with-people.html>

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Task 12:
Systems Engineering
Management Plan (SEMP)



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Systems Engineering Management Plan (SEMP)



Task 12

The SEMP provides evidence of the systems engineering process that will be followed while implementing the Complete Trips Deployment. It also includes how you plan to manage the specific systems engineering activities that will be performed during the project, focused on Phases 2 and 3. The SEMP describes the process for developing, integrating, implementing, operating, and maintaining the system.

Deliverables

1. Draft Systems Engineering Management Plan – Kick-Off + 40 weeks
2. Final Systems Engineering Management Plan – Kick-Off + 44 weeks



SEMP Major Components

Scope of Project	Describe the system to which the SEMP applies, purpose of the SEMP, and SEMP configuration management process.
Applicable Documents	Identify all applicable documents, references applicable to implementing the SEMP.
Systems Engineering Process Application	Describe the systems engineering process (SEP) activities that will be applied to the total engineering effort of the project.
Transitioning Critical Technologies	Describe the approach and method for identifying and evaluating critical technologies, and incorporating into the project.
Integration of the SE Effort	Describe integration of the systems engineering effort and coordination of integrated product teams to be cost/schedule.
Additional Systems Engineering Activities	Describe other areas not addressed, but essential for planning the total systems engineering effort.
Notes	Provide general information to aid in understanding the SEMP.



Task 12

SEMP Schedule

2021

2022

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

Jan

Feb

Task 1 *User Needs* *Project Management*

Task 2 *Concept of Operations*

Task 3 *Data Management Plan*

Task 4 *Safety Plan*

Task 5 *Performance Measurement*

Task 6 *System Requirements*

Task 7 *Tech Readiness*

Task 8 *Human Use Approval*

Task 9 *Training Plan*

Task 10 *Institutional, Partnership, and Financial Plan*

Task 11 *Outreach Plan*

Task 12 **SEMP**

Task 13 *Deployment Plan*

Task 14 *Deployment Readiness Summary*

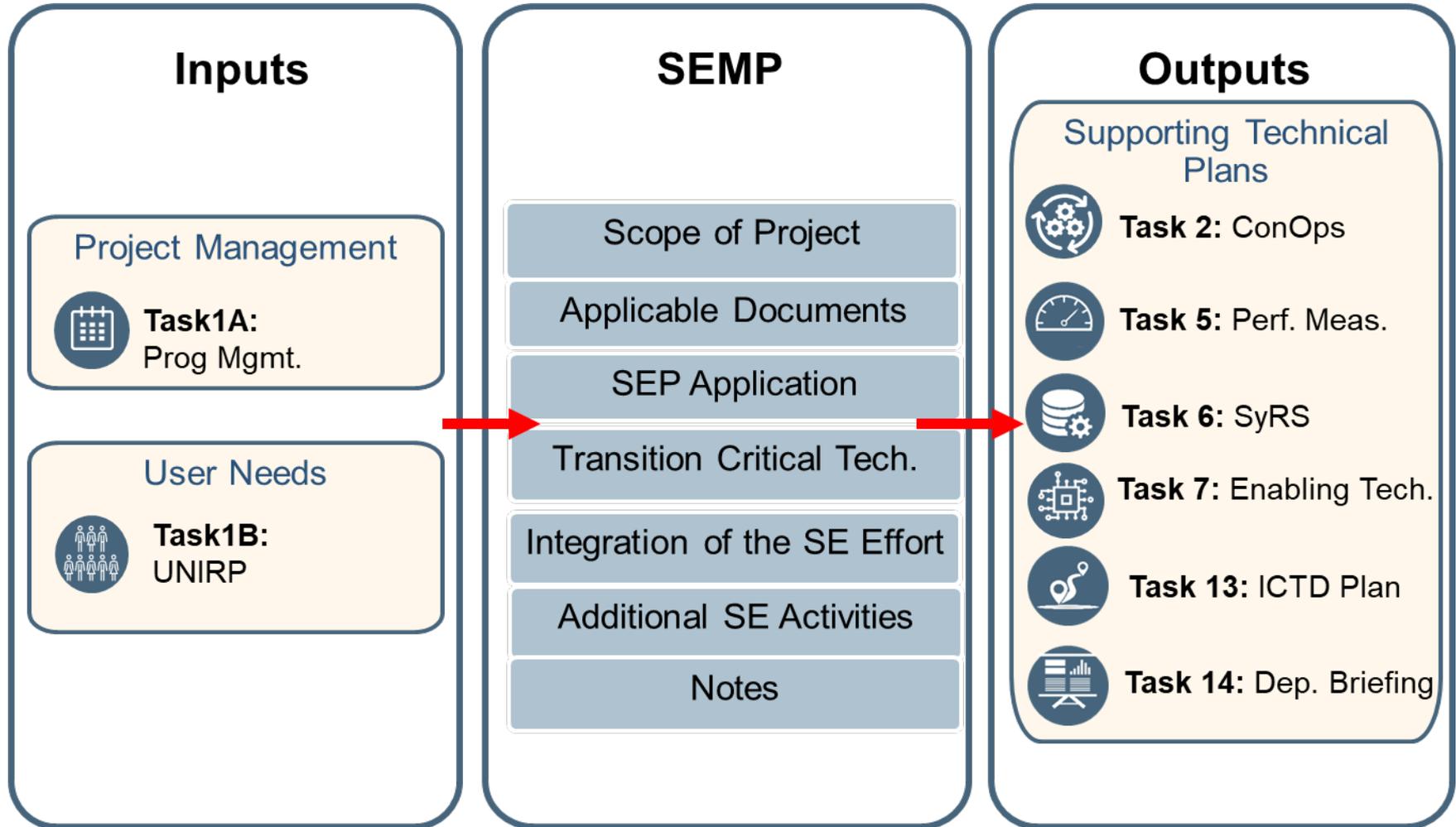
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SEMP Interdependencies





SEMP Challenges

▪ Project and Systems Engineering Integration

- **Issue:** Complexity of developing a SEMP.
- **Possible Strategy:** Consult with an experienced systems engineer with experience developing, integrating, operating and maintaining large disparate systems. Make sure program management, engineering, software development, procurement and testing teams are well coordinated and follow processes in the SEMP.

▪ Transitioning Critical Technologies

- **Issue:** Project required new products and technologies that are not mature for specific capability/functionality.
- **Possible Strategy:** Identify and monitor this risk early in the project lifecycle. Identify technical task to address the risk.

▪ Coordinating Changes Between System Owners

- **Issue:** Coordinating changes between systems with different system owners and different development schedules.
- **Possible Strategy:** Identify those cross-system dependencies and hold regularly scheduled coordination meetings to harmonize schedules.



SEMP Summary

- Proposed Technical Support Materials

Schedule Item	Date
Task 12 Training	TBD
USDOT-provided Task 12 Deliverable Template	TBD
Cohort Roundtables – Technical Roundtable (focused on Tasks 1.B, 2, 3, 4, 6, and 12)	TBD

- Get help by contacting your federal site lead/site COR or reach the Systems Engineering Lead Deb Curtis at deborah.curtis@dot.gov.



SEMP Key References

- IEEE Standard for Application and Management of the Systems Engineering Process, IEEE Standard 20-2005, [10.1109/MC.2006.164](https://doi.org/10.1109/MC.2006.164)
- FHWA's Systems Engineering for Intelligent Transportation Systems
<http://ops.fhwa.dot.gov/publications/seitsguide/seguide.pdf>
- FHWA Systems Engineering Guidebook for ITS, Concept of Operations Template
http://www.fhwa.dot.gov/cadiv/segb/views/document/sections/section8/8_4_5.cfm
- FHWA Applying Scrum Methods to ITS Projects
<https://rosap.ntl.bts.gov/view/dot/32681>

BREAK

2:10PM –2:30PM ET

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Task 13:
**Integrated Complete Trip
Deployment Plan (ICTDP)**



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Integrated Complete Trip Deployment Plan (ICTDP)



Task 13

The ICTD Plan summarizes the refined deployment concept developed in Phase 1; and sets forth high-level Phase 2 (Design/Build/Test) and Phase 3 (Operate/Maintain/Evaluate) Schedule; and shared with the general public through a webinar.

Deliverables

1. Draft Integrated Complete Trip Deployment Plan – Kick-Off + 42 weeks
2. Final Integrated Complete Trip Deployment Plan– Kick-Off + 46 weeks
3. Deployment Plan Webinar (public) – Kick-Off + 49 weeks



ICTDP Major Components

Summary of Refined Phase 1 Deploy. Concept

Concise summary of challenge(s) to be addressed, the overarching deploy. concept to address challenges, and expected outcomes.

Expected Phase 2 Deployment Schedule

Key milestones associated with Task 12 SEMP (e.g., development of system architecture, design, and test plan).

Expected Phase 3 Deployment Schedule

Key milestones associated with operations and maintenance of deployed system, outreach activities and perf measure reporting.

Expected Phases 2 and 3 Deploy Cost Estimate

High-level assessment of costs (e.g., labor, materials, travel) required to deploy and operate. Estimate total cost by phase and task.



Task 13

ICTDP Schedule

2021

2022

Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb

Task 1	User Needs			Project Management								
Task 2	Concept of Operations											
Task 3				Data Management Plan								
Task 4				Safety Plan								
Task 5				Performance Measurement								
Task 6				System Requirements								
Task 7				Tech Readiness								
Task 8										Human Use Approval		
Task 9										Training Plan		
Task 10				Institutional, Partnership, and Financial Plan								
Task 11										Outreach Plan		
Task 12										SEMP		
Task 13										Deployment Plan		
Task 14										Deployment Readiness Summary		

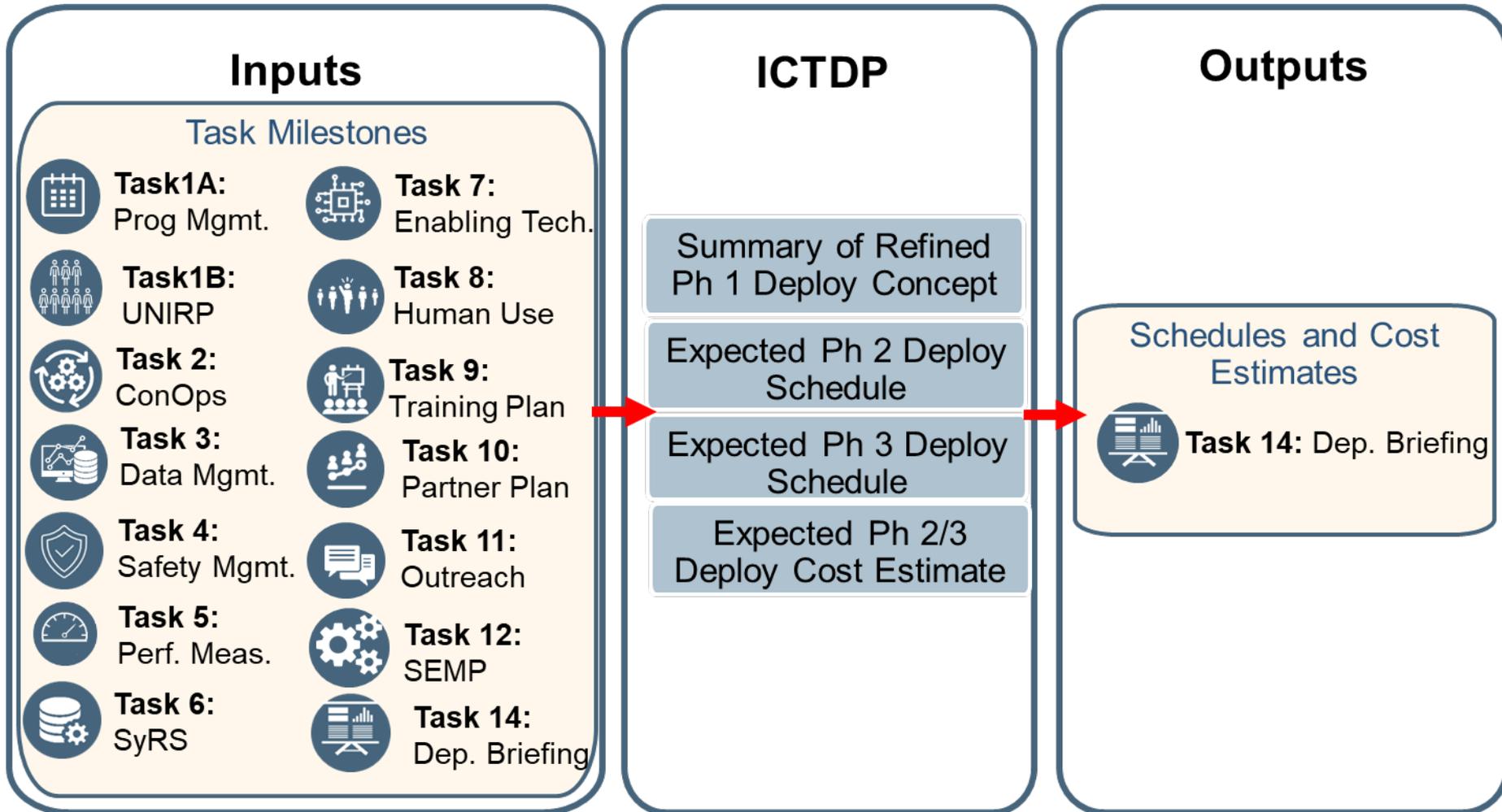
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ICTDP Interdependencies





ICTDP Challenges

■ Phase 2 and Phase 3 Schedule Risk Assessment

- **Issue:** Obtaining approval from state and local governing authority prior to deployment, completing human use approvals, and ensuring timely delivery and testing of equipment dependent on emerging (less mature) technologies can lead to schedule slips.
- **Possible Strategy:** Identify schedule in agreements with suppliers and partners; include provision in Phase 2 and Phase 3 for schedule risk identification and mitigation strategy; work with COR as soon as a potential schedule slip is identified.

■ Phase 2 and Phase 3 Cost Risk Assessment

- **Issue:** Costs associated with multiple coordination activities, uncertainty in participant recruitment and retention, and potential disruptions in service model or revenue stream can lead to disruption of operations and wasted resources if not carefully planned.
- **Possible Strategy:** Clearly identify in ICTDP the number and type of coordination events, scope of support provided to evaluators, liability issues, roles and responsibilities of partners and evaluators.



ICTDP Challenges Continued

▪ Stakeholder Disinterest

- **Issue:** Inability to engage the broader community in the proposed deployment concept leading to disinterest in the concept and the ITS4US program. Difficulty in maintaining interest in period between the initiation of planning phase and start of operational phase.
- **Possible Strategy:** Publicize webinar to local as well as broader set of stakeholders; develop webinar materials that are easily-understandable and accessible to broader community, not engaged in ITS4US related-efforts; highlight key elements of plan. Maintain cadence of regular interactions with stakeholders/outreach activity to demonstrate progress before operational phase begins.



- Proposed Technical Support Materials

Schedule Item	Date
Task 13 and 14 Training	TBD
USDOT-provided Task 13 Deliverable Template	TBD

- Get help by contacting your federal site lead/site COR or reach the Technology/Deployment Lead Kate Hartman at Kate.Hartman@dot.gov

COMPLETE TRIP



**Task 14:
Deployment Readiness
Summary Briefing (Ready
Brief)**



COMPLETE TRIP



U.S. Department of Transportation
ITS Joint Program Office

Deployment Readiness Summary Briefing



Task 14

Assess from a programmatic perspective readiness to initiate the Design/Build/Test Phase for Deployment in a summary document and briefing primarily to the COR, other USDOT team members, and FHWA Contracts.

Deliverables

1. Deployment Readiness Summary Briefing – Kick-Off + 49 weeks
2. Draft Deployment Readiness Summary – Kick-Off + 49 weeks
3. Final Deployment Readiness Summary – Kick-Off + 52 weeks



Ready Brief Major Components

Completed Deliverables

All Task 1-13 deliverables finalized with COR comments satisfactorily incorporated.

Deployment Concept

Alignment with the four Complete Trip-ITS4US Guiding Principles.

Scope of Deployment

Clear scope of deployment (e.g., geographic boundaries, countable deployment elements).

Phase 2-3 Framework

Clear Phase 2-3 framework among partner organizations.

Phase 2-3 Schedule

Proposed Phase 2-3 schedule aligns with program requirements.

Operations and Management Concept

Clear operations and management concept for deployment among partners for Phase 3 and for five years after program completion.

Financial Model

Feasible financial model for the deployment to sustain operations for a minimum period of five years after program completion with no supplementary program funds.



Task 14

Ready Brief Schedule

2021

2022

Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
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Task 1	User Needs			Project Management								
Task 2	Concept of Operations											
Task 3				Data Management Plan								
Task 4				Safety Plan								
Task 5				Performance Measurement								
Task 6				System Requirements								
Task 7				Tech Readiness								
Task 8									Human Use Approval			
Task 9									Training Plan			
Task 10				Institutional, Partnership, and Financial Plan								
Task 11									Outreach Plan			
Task 12									SEMP			
Task 13									Deployment Plan			
Task 14											Deployment Readiness Summary	

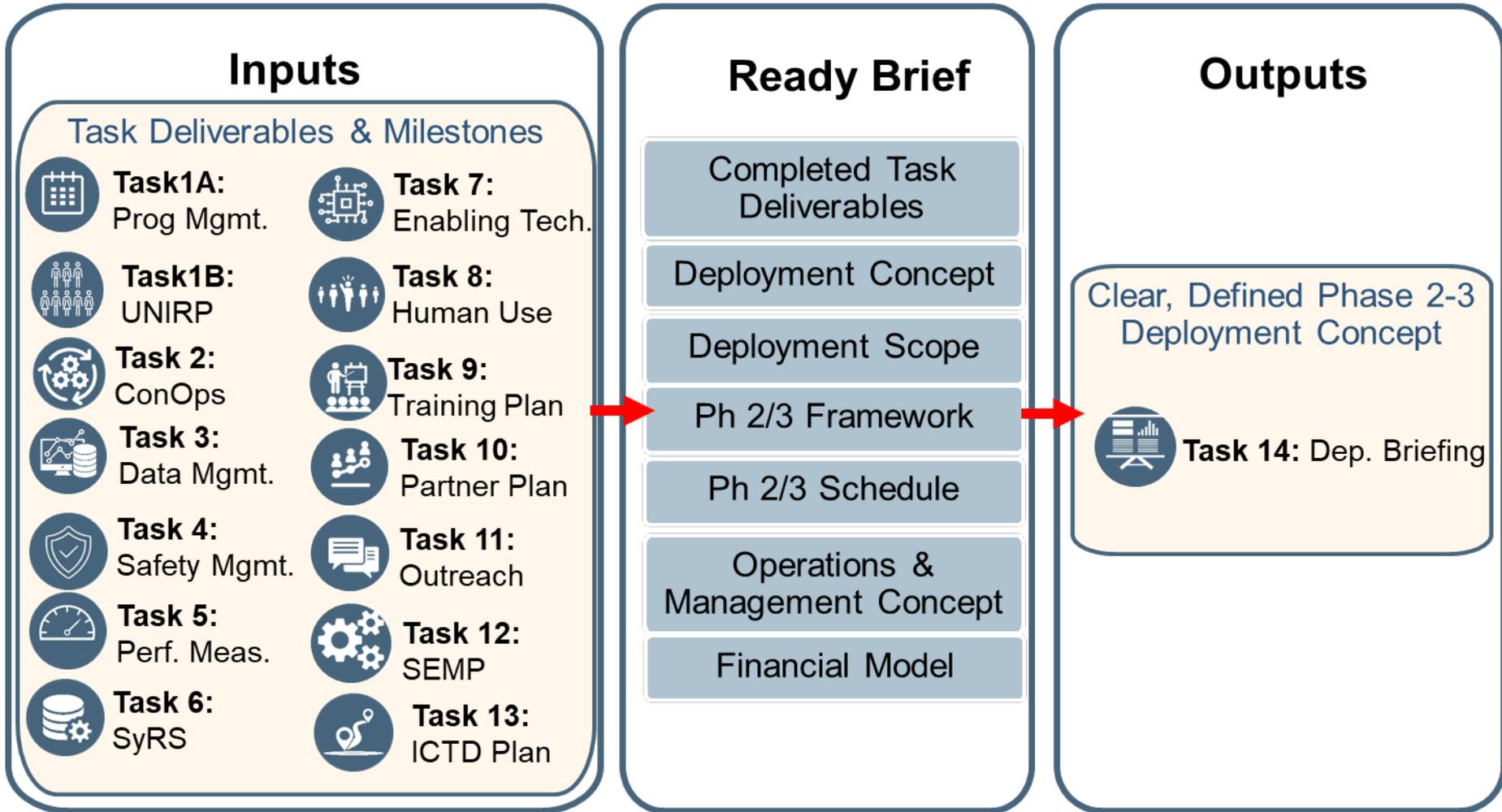
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Ready Brief Interdependencies





Ready Brief Challenges

▪ Changes from Initial Proposed Approach

- **Issue:** In developing the ConOps and further products & deliverables, the scale or scope of the originally proposed Integrated Complete Trip deployment approach has to be changed, resulting in changes to proposed staffing, schedule, or costs for design, build, test, and operation under Phases 2 & 3.
- **Possible Solution:** Fully describe any changes from the original proposed estimated scope, team/staff, schedule, or costs for Phases 2 & 3. Identify any risks & their possible mitigation associated with significant changes to aid USDOT in its assessment of the site's readiness to enter into deployment.



Ready Brief Summary

- Proposed Technical Support Materials

Schedule Item	Date
Task 13 and 14 Training	TBD
USDOT-provided Task 14 Deliverable Template	TBD

- Get help by contacting your federal site lead/site COR or reach the Technology/Deployment Lead Kate Hartman at Kate.Hartman@dot.gov

Questions



Near-Term Activity Reminder



➤ March 2nd 2:00-3:30 ET- User Needs ID and Requirements Training



➤ March 15th – Draft PMP is Due



➤ March 22nd - Draft User Needs ID and Requirements Plan Due



➤ March 16th 2:00-3:30 ET- Concept of Operations Training



➤ April 5th - Final PMP is Due



➤ April 6th 2:00-3:30 ET- Perf. Measurement and Eval Plan Training



➤ April 12th – Final User Needs ID and Requirements Plan Due



➤ April 13th 2:00-3:30 ET- Institutional, Partnership & Financial Plan Training

Recap & Closing

