CALL FOR IMPACTFUL PROJECTS:
THREE SAMPLE SCOPES OF WORK FOR EXPLORATORY SCENARIO PLANNING
Fall 2020

SAMPLE SCOPE OF WORK #1:
One Day Workshop: Introduction to Exploratory Scenario Planning

THIS SCOPE:
SAMPLE SCOPE OF WORK #2:
Developing a Smart City Roadmap

SAMPLE SCOPE OF WORK #3:
Stakeholder Outreach for Climate Emergency Planning

This sample scope of work was prepared by Lisa Nisenson for the Consortium for Scenario Planning, an initiative of the Lincoln Institute of Land Policy. Visit scenarioplanning.io for more information.

SAMPLE SCOPE OF WORK #2: DEVELOPING A SMART CITY ROADMAP

Overview

The Consortium for Scenario Planning, an initiative of the Lincoln Institute of Land Policy, promotes the use of next generation planning methods to help organizations better incorporate trends and uncertainties into their programs. To meet the growing demand for scenario planning, the Consortium is making these three **sample scopes of work available to provide a template for designing and procuring exploratory scenario planning services.**

The Challenge of Planning for Change
Traditional planning processes carried out by public, private and non-profit entities tend to acknowledge, rather than explore and incorporate, change. To reduce complexity, analysts have historically extrapolated trends lines from past to forecast future conditions. To reduce legal liability, planners often rely on existing assumptions that have endured regulatory scrutiny. For expediency, plans cover extended time horizons.

This conventional approach however is ill-suited to building effective preparation and responses for disruptive trends including new technologies, economic restructuring, climate change, and now COVID-19. Moreover, many processes only consider one topic at a time when communities are facing impacts from multiple trends and stressors.

Public, private, and non-profit sector entities are seeking ways to explore and integrate uncertainties into plans, policies, and projects. Examples of applications and desired outcomes for an exploratory scenario planning for a smart city roadmap include:

- A metropolitan planning organization (MPO) uses a workshop to explore how emerging transportation technologies could alter assumptions used in a regional plan update. Because of exploratory scenario planning, the roadmap features improved assumptions and adopts an adaptive planning approach that captures technology's benefits and provides risk mitigation related to procurement, training, cybersecurity, and interoperability.
- A city manager uses exploratory scenario planning to bring all technology stakeholders (communications, public safety, parking, buildings, intersections, housing, education, public health) together to define interlinking interests, align goals and outcomes, and create a data management and procurement plan. With cross-Departmental coordination, the city can realize cost efficiencies.
- A state Department of Transportation needs to modernize the way it supports regional and local transportation entities. Through a roadmapping effort, the DOT can (1) create an inventory of mobility-related technologies, (2) create a testing and

tracking system, and (3) develop technical assistance programs to help communities procure smart city hardware and software.

Why Sample Scopes of Work for Exploratory Scenario Planning?
The shift in planning requires new approaches, skills, and processes to understand forces of change, articulate impacts, and identify next steps. Because these new planning approaches are new, there are few "go bys" for guidance. These scopes are intended to facilitate the process for:

1) Developing a Request for Qualifications (RfQ) or Request for Proposals (RfP) to hire scenario planning consultants, or
2) provide a work plan for developing scenario planning workshops in-house.

The scopes are written to provide (1) educational information on scenario planning and (2) copy-and-paste (and customizable) language for RfP and work plan development. Within the scopes, we provide rough estimates on level of effort and hours, as well as factors that drive costs/resources.

There are three sample scopes of work for three topics:
Scope 1 a one-day workshop addressing trends
Scope 2 (*this document*): developing a technology roadmap
Scope 3: planning for a climate emergency planning

Who Can Use These Scopes?
Example users: Any entity whose mission will be affected by trends and technology

- States, cities and counties that are in the first stages of plan and policy updates
- Metropolitan Planning Organizations (MPOs) and other Regional Agencies
- Non-profit organizations
- Economic Development Entities
- Regional Task Forces (Smart City, Climate, Autonomous Vehicles, Strategic Planning)
- Private Sector entities (transportation, real estate development, asset management)
- Campus managers

How Can My Organization Use These Scopes?
Example uses: Any decision or process that could be affected by trends and technology

- Kicking off an organization's Strategic Planning
- "Stress testing" decisions to examine how options work under various scenarios
- Creating "future-ready" updates to Comprehensive, Climate, Transportation and Economic Development plans, as well as smaller sector plans or projects
- Creating action plans to proactively address emerging technologies and resilience
- Engaging stakeholders and the public on impactful technologies

Introduction

Technology roadmaps are a new type of plan to systematically identify, evaluate, pilot, and integrate software, hardware, and communication technologies. Roadmaps are characterized by aggressive implementation time frames (12-24 months), adoption phases, and "trigger" points denoting a change in course should technologies fail to deliver (or require faster adoption). Roadmaps also help meet several objectives:

Planning: To create a near-term (12 to 24-month period) action plan to prioritize decisions related to technology:

- Internal: Secure inter-departmental alignment and procurement of promising technologies for organizational operations. Avoid purchase of duplicative software. Use a roadmap to link goals + performance metrics to appropriate technology investments for data collection and analytics.
- External: Determine how governance, plans, policies, and project design may be affected by trending technologies, as well as proactive steps for future-proofing investments and service design.

Policy: Use the roadmap to:

- identify the process for updating programs, plans, policies, and project design.
- develop success metrics to ensure technology is achieving intended performance expectations.

Smart City and Transportation Technology Examples	
Enterprise/Foundational: • Artificial Intelligence & Machine Learning • Cybersecurity • Communications (e.g. Wi-Fi, Broadband) • Public Engagement • Human Resources • Finance & Payments	Transportation • Transit Mobile Apps • Smart Parking • Connected & Autonomous Vehicles • Signal Timing • Bike and pedestrian counters
Public Services • Educational Software • Water Sensors (irrigation, flood alerts) • Health Technologies • Chatbots	Public Safety • Smart Lighting • Security & Monitoring Systems • Vehicle-mounted Pavement Assessment • Multiple Technologies for Evacuation

Variables that Drive Level of Effort & Cost

- **Number of Departments involved** (including regional and state representatives)
- **Number of participants unfamiliar with scenario planning and smart city technologies** - which will require more background on process and technology
- **Number of professional staff** and their level of expertise
- **The Organization's existing and desired technology portfolio** – size of portfolio, quality of record keeping, internal coordination, number and types of technologies

- **Product –** the complexity of the product desired will drive costs
- **Stakeholder outreach** – Costs will be driven by number of events and ability to piggyback roadmap efforts onto planned outreach/communications
- – How an organization may customize the process to meet specific needs (e.g. **Customization** multiple workshops, use of modeling software)
- **Live versus Virtual Engagement** – With COVID-19, organizations are moving some or all meetings and workshops online

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Before You Get Started

Resources
The Consortium for Scenario Planning has several resources listed on its site. Please visit scenarioplanning.io.

Going Virtual
The interactive aspects of exploratory scenario planning can be carried out using online engagement platforms such as Zoom and Microsoft Teams. Public, private and non-profit organizations are now conducting public and team meetings online. Some of the interactive features that can be useful include:

Breakout rooms: Workshop organizers can assign participants into smaller groups – or groups that are considering individual topics.
Annotation tools: Drawing tools allow participants to mark up maps, graphics, and diagrams.
Polling: Polling tools allow organizers to survey the group during a meeting.
Chat: The chat features allows participants to provide input throughout the meeting, which can be saved and automatically recorded.
Security features: With recent upgrades and new features, the online platform providers have taken action to remedy security problems.

Examples of Technology Roadmaps
SmartCityPHL Roadmap - City of Philadelphia, PA USA
Saratoga Springs Smart City Roadmap 1.0 – Saratoga Springs, NY USA
Digital Road Map - Gilbert Arizona
Smarter London Together – London England UK

Assumptions
- *This scope is targeted to public agencies, though can be useful for non-profit and for-profit organizations.*
- *The scope is written to inform development of a larger master plans and address how emerging technologies (e.g., smart city, transportation, communications, public safety, public health, economic development, stakeholder engagement) can be harnessed to improve services and expand opportunity.*
- *The client/organization will organize a larger stakeholder team and two smaller groups: a working group and a data group.*
- *The client/organization will be largely responsible for civic engagement, though there is an optional task for a larger effort.*
- *The client/organization will be responsible for gathering internal information related to stakeholder identification and outreach, technology inventories, the [organization's] communications, and 24-month schedules for related activities (e.g. budgets, plan updates, policy, and regulatory activity). This can include other local and regional agencies depending on priority technologies.*
- *[Organization] refers to client and consultant refers to a chosen vendor or internal scenario planning development lead.*

Sample RfP/RfQ: Developing a Smart City Roadmap using Exploratory Scenario Planning

Purpose Statement *(may be modified to fit local conditions and context)*

Smart City roadmapping allows organizations to quickly execute plans for testing and incorporating fast-evolving technologies. Roadmapping can also, in a structured way, reduce the complexities related to evaluating multiple technologies. Finally, roadmapping can be structured to align technology investments with important processes, budgets, and goals.

For Smart City Technology Roadmap development, planning often combines several forecasting methods in a series: exploratory, predictive (or anticipatory) and strategic planning. The exploratory phase tackles a wide range of "what ifs" related to technologies. From there, teams can explore the plausible or likely evolution of one or more technologies. Note there are three aspects that can be covered in technology roadmapping: (1) technology for delivering services to constituents, (2) technology for operations and decision support, and (3) a wide range of disruptive technologies that will impact traditional governance, business and service lines (for example how autonomous vehicles may affect revenue).

Because [*organization*] is responsible for helping our constituents and clients plan and prepare for the future, we are seeking qualified expertise in exploratory scenario planning to design and conduct a Smart City Technology Roadmap.

For many of the most impactful technologies such as autonomous vehicles and artificial intelligence, there is both promise and risk. As such, the roadmap must consider the possible evolution of various technologies, potential impacts, and the range of "levers," or tools available to enhance opportunities and limit risks. Levers can be incentives (e.g. reduced fares on autonomous transit) or regulations (e.g., limits on where autonomous cars may travel).

The primary goals of this roadmapping project is to (1) quickly build a system to identify technologies currently on the market, (2) anticipate how emerging technologies may evolve, (3) link technologies to organizational processes over the next 12-24 months, and (4) convene internal departments to allow "out of the box" exploration of disruptive technologies likely to affect their jobs and service provision to the public (or clients for private entities).

Task 1. Project kick-off

The project kick-off includes setting the details of project management and a kick-off workshop (half or full day) covering emerging technologies, trends, and an interactive exploratory scenario planning exercise with the stakeholder group.

Task 1.1. Project management: This meeting between consultant and *[organization*] will:

- articulate overall direction setting by defining needs, desired outcomes and critical stakeholders
- establish a process for setting a vision and goals or guiding principles
- determine the project management structure, including roles and responsibilities, for the stakeholder team, working group and data team
- outline work plan development and schedules
- outline initial workshop details
- develop the attendee list for Task 1.5 Kickoff Workshop (*[organization]* will provide list)

Task 1.2. Workshop components: Based on information from Task 1.1., the consultant will send a memo with workshop details including: initial list of attendees, agenda outline and list of preparation materials for Task 1.2 Kickoff workshop. If virtual, include a workplan for conducting meetings and workshops online.

Task 1.3. Internal stakeholder team, the working group, and the data team: The *[organization]* will produce three lists: (1) a larger internal stakeholder team of 10-15 internal stakeholders, (2) a working group of 5-6 agency professionals, and (3) a 5-6 member Data Team. The consultant and *[organization]* will define roles and responsibilities for each team.

Task 1.4. Develop workshop agenda: The consultant will create the workshop agenda, which includes:

- Optional: materials sent to workshop participants ahead of time
- List of participants (supplied by [*organization*])
- Opening remarks
- Background presentation
- Interactive exercise to prioritize technologies and scenario development

Task 1.5. Project Kickoff workshop: The kickoff workshop (half-day) will include presentations on emerging technologies and will be used to gain agreement on the project scope (e.g. technologies to consider, stakeholders) to include in Task 2 research. The workshop will include exploratory scenario planning exercise (stakeholder team, data team, and working group) and final project vision and guiding principles. Tasks include:

- A dry run the day or morning before
- Sign in sheets

- Presentations
- Scenario development exercise
- Collection of all notes and questions
- Summary Report

Optional: **Full day exploratory scenario planning workshop**: This workshop is expanded to include a fuller discussion of technology impacts and available levers.
Optional: Expanded stakeholder outreach through exploratory scenario planning: Conduct several small workshops for exploratory scenario planning. From these smaller workshops, refine the (1) purpose and (2) materials included in the Smart City Technology roadmap. In addition, use this process to collect information on digital literacy and access in the [*organization]*, city, county, area of influence.

Task 1 Level of effort: Depends on (1) number of available staff, (2) number and types of stakeholders to include, (3) complexity of existing and desired technologies to consider, and (4) project duration.

- Project management: 25-40 hours
- Preliminary workshop preparation, conduct, and report out: 25-35 hours (not including workshop attendee time)

Task 2. Inventory, Best Practices and Outreach

Task 2 prepares the project success factors to ensure a useful product (the Roadmap).

Task 2.1. Internal Inventory

Task 2.1.1. Hardware & Software: The *[organization]* will provide updates inventories of existing technology. This will include technologies covering operations such as:

- procurement processes and policies that can help or hinder technology testing and purchases
- human resources and payroll
- enterprise operations (e.g. mobile apps, geomatics, websites, social media)
- planning and project software/hardware by Department including subscriptions
- significant technologies shared with regional and state entities
- communications (e.g. 4G & 5G coverage, fiber, small cells)
- any other software that is vulnerable to becoming obsolete or at risk (e.g. cyber security). The consultant will highlight contract timelines and contract stipulations that could hamper the *[organization]*'s ability to upgrade its technology portfolio. In addition, the consultant will review programs and partnerships that overlap with roadmap development

Task 2.1.2. Data: Working with the Data Team in Task 4, the consultant will develop an inventory of:

- Data collection & monitoring efforts (or summary if data sets are large)
- A catalogue of common data elements
- Current data specifications
- A list of data partners

Consultant will review list and make recommendations.

Task 2.1.3. Internal Interviews: The consultant, working with the *[organization*], will compile a list of five (5) internal stakeholders and conduct 30 minute interviews.

Task 2.1.4. Stakeholder Consultation: Review current outreach activities with the *[organization]* and their Communications leads. Develop an inventory of contact lists associated with:

- Previous technology or smart city activities (e.g., events, grant applications)
- Local technology incubators, hubs, and accelerators
- Local or regional University programs
- Local reporters covering technology, smart cities, or smart governance
- The [*organization's*] social media pages and accounts (consultant review and recommendations)

Task 2.1.5. Related organizational plans and activities: The *[organization]* and consultant will confer on the needed documents, schedules and contacts that would be included (or referred to) in the roadmap. This may include impactful regional and state activities as well. These could include:

- Existing smart city (or related) program, Geospatial and IT Departments
- Plan updates (e.g. Comprehensive or General Plans, Transportation Plans, Corridor and Small Area Plans)
- Pilot projects underway involving technology
- Regulatory and policy activity (recent, proposed)
- Related budgets (e.g. Technology purchases or renewals, Capital Improvement Plan projects)
- Digital Equity (programs to expand access, information on digital gaps)

Task 2.2. External Inventory and Interviews: The consultant, working with the *[organization]* and external stakeholders, will develop any additional items for the inventory of assets related to the roadmap. The consultant will conduct five interviews of external stakeholders, chosen by the [*organization]*, with knowledge of the smart city ecosystem.

Task 2.2.1. Develop survey questions and get feedback from client.

Task 2.2.2: Schedule and conduct five phone interviews, each 30 minutes long.

Task 2.3. Research: The consultant will conduct research on:

- Pertinent technologies and other relevant drivers of change
- Conditions affecting market adoption of various types of technologies
- Impacts (possible, plausible, likely/ internal, and external)
- Local levers (e.g., procurement, regulations, incentives, grants)
- Setting performance metrics

Task 2.4. Best Practices: This task will include the review of technology and/or smart city initiatives to glean best practices from peer cities. The consultant shall pay attention to how a city used technology to solve local problems that could involve the following examples:

- Internal: Public engagement, service improvements, emergency response, infrastructure, regulatory compliance, public health, public safety, forecasting, revenue collection, procurement, education, adaptive planning, data privacy, and governance
- External: Mobility, construction technology, equitable development, energy efficiency, education opportunities, crime prevention, health & well-being, climate resilience
- Technology investments
- Communications platforms
- Funding and finance
- Digital equity
- Case studies, including lessons learned, critical success factors, and gaps

Task 2.5. ***[Organization]*** **+ Consultant call**: During this 1-hour call, the consultant and the *[organization]* will review the research. Consultant will integrate comments.

Task 2.6. Draft research report

Task 2.7. Research presentation: The consultant will present the research report to the working group and incorporate comments into a second presentation. This presentation should include, at a minimum:

- Overview of kick-off meeting
- Relevant smart city technologies
- Scenarios and Impact analysis
- Levers to manage impacts, with a focus on local options
- Best Practices/case studies
- Next steps for refining the number/types of technologies to evaluate in Task 3

Optional Task 2.8. Public engagement: The consultant will develop a public outreach plan that includes the public in priority-setting. The purpose of outreach is to (1) determine the main sources of concern and interest, (2) articulate problems to solve, and (3) provide general education on the opportunities and risks associated with smart city and smart government technology. The benefits of a larger campaign are to build a common understanding of technology, obtain more robust civic input and avoid backlash because the roadmap was developed without adequate notice.

Optional Task 2.9. Convene experts using a Delphi Method: The Delphi method is often used for convening experts who have insight on the timing, probability, trends, potential impacts, and events regarding technology. This optional task is comprised of the following subtasks:

- Delineate the types of smart city technologies to be investigated
- Develop a questionnaire or survey
    - How smart city technologies are likely to evolve (possible, plausible, and preferable)
    - How various technologies, in concert, may bring about greater benefits and/or negative consequences, and/or feedback loops
- Develop a list of panel members for the survey
- Create a preliminary report aggregating responses and send to the group
- Create a final synthesis report with details on how technologies are likely to evolve, individually and in combination

Task 2 Level of effort: Will depend on (1) quantity and quality of asset management (hardware, software, data, partnership lists, organization activities), (2) ability to hire student researchers, (3) robustness of information on technology. This does not include optional tasks.

- Internal Inventory compilation (assuming assistance from organization staff): 20-35 hours
- External Inventory: (assuming assistance from organization staff and stakeholder participation): 12 -20 hours
- Research and Best Practices: 35-50 hours
- Research report and presentation: 12-15 hours

Task 3. Prioritization

Based on the kick-off workshop, inventory and research, this task condenses the number and types of technologies to include in the roadmap. The technologies should include those related to both internal and external services and operational improvements.

Task 3.1. Preparation: [*Organization*]+ consultant + data team call (Task 3.2): Based on results of Task 2, develop list of potential priority ranking factors. These factors should include at a minimum:

- Degree of impact(s)
- Certainty or uncertainty surrounding a technology's market adoption (feasibility)
- Ability to solve identified, priority problems, including lowering/avoiding costs
  Ability to leverage existing assets (technology, economic, social)
- Ease of implementation
- Costs to purchase, operate, update, and maintain identified technologies

- Metrics or KPIs (Key Performance Indicators) linking technology to problem solving/meeting goals

Task 3.2. *[Organization]* + consultant + data team call: Determine the list of priority ranking factors and how they should be presented. During this conversation, the *[organization]* will also determine whether modeling or another aspect of quantitative analysis is needed in order to explore and refine the list of technologies considered in the Roadmap.

Task 3.3. Prioritization matrix: The consultant will develop a prioritization matrix or other tool.

Task 3.4. Draft priority matrix: Submit the draft Priority Matrix to the *[organization]* and working group. Obtain and incorporate comments.

Task 3.5. Final priority matrix: Submit final priority matrix to *[organization]*.

Optional Task 3.6. Presentation to decision makers: At this point the team may want to present priorities to decision makers and/or the public. In this optional task, the consultant will prepare a presentation and memo to decision makers or communications for dissemination.

Optional Task 3.7. Forecasting and modeling tools recommendations
The [*organization*] may request recommendations on forecasting and modeling tools for use in developing the roadmap. For this Task, the consultant will develop recommendations through the following subtasks:

- Research planning assumptions, data sets and forecasting tools, as well as best practices from other communities
- Outline key variables/change drivers
- Develop a list of scenario indicators (to test how local priorities test against scenario outputs)
- Recommend tools (including a scan of benefits/limitations, data requirements, outputs and case studies of other communities' use of the tool)
- Work with the *[organization]* to conduct test runs or product demonstrations (demos).
- Conduct and refine model runs
- Present results to stakeholder teams

Task 3 Level of effort: Will depend on (1) Team input and agreement on prioritization factors, (2) number of technologies considered, and (3) availability and quality of information feeding priority ranking factors. This does not include optional tasks.

- Priority matrix development: 30-45 hours

Task 4: Data Strategy for Creating the Roadmap

Any roadmap needs to consider and coordinate data collection, analysis, storage, data uses, and privacy. Moreover, data collection and communications are expected to radically change with larger 5G and small cell networks to support the Internet of Things (IoT). **Note:** Task 4 is limited to a Data Strategy for creating the 12-24-month roadmap, not a Master Smart City Plan.

Task 4.1. Updated inventory: Based on the results of Task 3 prioritization, the Data Team will identify inventory updates needed for Task 5: Technology Foresight & Scenarios.

Task 4.2 Data strategy: The consultant will convene the Data Team to discuss the data needs for creating the scenarios given priorities that emerge in Task 3, including metrics and KPIs.

Task 4 Level of effort: Will depend on the size and completeness of the [*organization's*] data inventory and whether the [*organization*] has an existing data strategy with metrics. For the inventory and strategy, budget *10-20 hours*

Task 5: Technology Foresight & Scenarios

This task moves from an exploratory to a more strategic phase, that describes technologies, their likely evolution, and implications for the *[organization*]. Scenarios can be presented for technologies independently (showing a predictive evolution as a single technology evolves), or in combinations (showing how a set of alternative scenarios may emerge depending on variables related to market adoption and trends). Given the rapid innovation in planning and decision support techniques, the *[organization]* and consultant may propose other strategies useful in developing the Roadmap.

Task 5.1. Scenarios:

Task 5.1.1. Technology Visualization: With the list of priority technologies, create a visual depicting:

- Each technology and anticipated evolution, and/or
- Scenarios involving multiple technologies and other trends, including factors that may amplify desired or undesired outcomes, and/or
- Other depictions of a technology adoption roadmap

Task 5.1.2. Working group review: Distribute for input from the working group and refine.

Task 5.2. Stakeholder team meeting: The purpose of this meeting is to affirm draft technology scenarios and to develop initial ideas on mapping the scenario phasing to organizational processes scheduled for the next two years in Task 6. The consultant will prepare background materials (gleaned from the Inventory in Task 2) to facilitate the conversation, and may include but not be limited to:

- Comprehensive and other planning updates
- Capital improvement processes
- Department structures and any reorganizations
- Budget development
- Grants and loan programs
- Regulatory requirements (e.g., zoning, Federal laws)
- Any other important supporting activities or processes

Task 5 Level of effort: Will depend on the complexities related to organizational structures, processes, and activities:

- Visualizations: 10-25 hours
- Stakeholder meeting and review: 25-35 hours

Task 6: Mapping Organizational Processes to Scenarios & Draft Roadmap

The roadmap takes shape in Task 6 as the priority technology scenarios are mapped to the organizational elements from Task 2. The mapping task also includes "adjustment triggers," which are events that would alter the predicted course of technology adoption, and hence would trigger an adjustment to implementing milestones within the Roadmap.

Task 6.1. Initial roadmap: The consultant will construct a roadmap outline (narrative and graphic) for the 12 or 24-month period with (1) scenarios, (2) related organizational efforts over the 12 or 24-month span and roadmap adjustment triggers (see Task 6.1.3).

> **Task 6.1.2. Mapping to [*organization's*] efforts:** Working with the inventory, scenarios and organizational processes, the consultant will create a [*chart, table, graphic*] aligning the scenarios with [*organization's*] related activities and efforts. If needed the *[organization]* and consultant may suggest plans, new policies or other activities to improve the technology adoption plans and stakeholder participation.
>
> **Task 6.1.3. Strategies and adjustment triggers**: With the roadmap created in Task 6.1.2, and the conditions for technology adoption identified in Task 2, the consultant and working group will identify strategies for the salient technologies. This could be strategies for purchasing safety technologies, or strategies for incorporating emerging technologies into plans, policies, and projects. The team will also identify "adjustment triggers" for each technology (or bundle) that would alter market availability or adoption. To the extent possible, describe when along the timeline this could occur.

Task 6.1.4. On-boarding new technologies process: While difficult to forecast, [*organization*] is likely to consider new technologies during the Roadmap creation timeline. Task 6 should include a section on considering (1) unsolicited proposals/pitches, (2) requests for partnerships, and (3) piloting technology solutions since these new technologies could trigger a change in the Roadmap.

Task 6.1.5. Tracking system: The roadmapping effort should also include ideas on how to track activities within the Roadmap, including technology tracking, adjustment triggers, and organizational processes and milestones (e.g. plan updates).

Task 6.1.6. Preparation for working group meeting: In preparation for this meeting, the consultant will prepare materials to assist the conversation on identifying conditions and triggers.

Task 6.1.7. Working group meeting: The *[organization]* will convene a [*meeting, call, videoconference*] to create the list of adjustment triggers for the Roadmap. The product will be an initial Roadmap.

Task 6.2. Draft Roadmap: In 6.2, the consultant will compile the draft roadmap.

Task 6.2.1. Draft Roadmap: The consultant will create a draft Roadmap in narrative and graphic format, which should include the following elements (or variations based on factors revealed during the roadmapping process):

- Introduction
- Purpose and scope
- Vision, goals, and/or guiding principles
- Outreach
- Methodology and/or strategies for implementation
- Inventory, best practices & gaps
- Priority technologies: external to solve problems and internal to improve services
- Scenarios: description and processes
- Roadmap: pulling together the pieces
    - Include graphic timeline, key milestones (including adjustment triggers and other metrics)
    - How the Roadmap will be used
    - Implementation: program, policy, plan, and project design recommendations
    - Implementation partnerships
    - On-boarding new technologies
    - Preparing for next generation of technologies
- Funding
- Roadmap tracking
- Appendix

- Recommendations/Instructions for each department
- Full inventories (data, programs, partnerships)

Task 6.2.2. Internal Review of Draft Roadmap: This task assembles the Working Group via [*meeting, call, videoconference*] to go through the draft and solicit comments. Consultant shall conduct call and incorporate comments.

Task 6.2.3. Preparation for stakeholder + working group + data team meeting: The *[organization]* and consultant will review the draft roadmap and distribute to the full team, with instructions.

Task 6.2.4. Stakeholder meeting: Consultant, working with the *[organization]*, will convene a meeting via [*meeting, call, videoconference*] of the Stakeholder Group, Working Group and Data Team. Consultant will assemble comments and incorporate into final Roadmap.

Optional Task 6.2.5. Presentation to decision makers: At this point the team may want to present priorities to decision makers and/or the public. In this optional task, the consultant will prepare a presentation and memo to decision makers or communications for dissemination.

Task 6 Level of effort: Will depend on (1) ease of identifying triggers, (2) complexity of developing an on-boarding process and tracking system, (3) response to comments, (4) number of people working on draft development. Does not include optional tasks.

- Plan alignment/mapping organizational processes: 15-20 hours
- Adjustment triggers and on-boarding: 10 hours
- Tracking system recommendations: 6-8 hours
- Working Group: 10-12 hours
- Draft Roadmap preparation and review process: 38-50 hours

Task 7: Final Roadmap

Based on input from Task 6, the consultant will prepare a final Roadmap.

Task 7 Level of effort: Will depend on comments to the draft, 20-30 hours.