

**CARB-X**

**Diagnostics – ID/AST  
Short Form Instruction Guide**

September 2019

# Things to Note

**Applications will be managed through the CARB-X Digital Resources (CDR) web-portal in the system entitled “Online Secure CARB-X Application and Review System” (OSCAR).**

The online application has many fields for direct online input. However, the majority of the information supporting the application should be completed on the downloadable fillable templates and subsequently uploaded as a PDF on the “Project details” tab and as an Excel spreadsheet on the “Budget workbook and supportive document” tab. If you do not have access to CDR, please contact [carbxapp@bu.edu](mailto:carbxapp@bu.edu).

**Applications will be handled in a confidential manner in accordance with the CARB-X Non-Disclosure Agreement.**

1. CARB-X will ONLY accept applications that have used our application form and budget workbook.
2. CARB-X adheres to certain confidentiality labeling conventions to best protect confidential information, and we strongly suggest that you adopt this labeling: “CONFIDENTIAL – CONTAINS TRADE SECRETS AND COMMERCIAL INFORMATION” on your other documents that is uploaded into the CDR server.
3. The information marked “non-confidential” below will be used internally as a project summary and to evaluate conflicts of interest. Information in these non-confidential sections should be material that you would discuss publicly and that is acceptable for internal and external disclosure. In addition, such non-confidential material of successful applications may ultimately be shared as part of the description of CARB-X pipeline projects.

## **File Name Format**

**Please use the following file name format for all files that you upload into CDR:**

Round\_YYYYMMDD\_Your Company Name\_Last 4 numbers of your carbx id\_Item Name; Note: all lowercase, underscores, and zeros must be present.  
e.g. “3\_20191016\_carbx\_0435\_shortformapplication”

### **Example File Names**

1. 3\_20191016\_carbx\_0435\_shortformapplication
2. 3\_20191016\_2019\_carbx\_0435\_budgetworkbook
3. 3\_20191016\_2019\_carbx\_0435\_oda (if applicable)

# Table of Content

The table of contents provides information where entry, upload or attachments are required.

Please review carefully as this is to provide information to our reviewers in a clear and standard format.

Application Section	CDR Online Entry	Comments, if required	Non-confidential or Confidential
Company Information	CDR Online Entry (Cover Sheet)		Non-confidential
Principal Investigator Information			
Application Category		See website	
Funding Information		CARB-X funding is expected to begin at or after July 1st, 2020 for this funding round. Do not include any costs prior to this date in your budget.	
Development Stage		See definitions of the stages within CARB-X funding scope <a href="#">Diagnostics</a> (Right click link and open)	
Non-confidential Project Summary (from EOI application)		Project summary of 2000 characters or less	
Additional Information:			
History of prior application to CARB-X (if any).			
Will CARB-X funding support: 1. Trials in human? If so, who will be the legal sponsor? 2. Use of animals, and will these studies include any of the following: Non-human primates, Dogs, Cats, Equines? 3. List of reviewers that applicant does not wish to evaluate application.			
Name individuals which you do not wish to review your application due to perceived conflicts of interest (if any). Please input exact names as already provided to CARB-X from the decision email.			

# Table of Content (continued)

The table of contents provides information where entry, upload or attachments are required.

Please review carefully as this is to provide information to our reviewers in a clear and standard format.

Application Section	File Upload on CDR	Comments, if required	Non-confidential or Confidential
<p><b>Short Form Fillable Template</b>            Tables and Figures to be included:</p> <ul style="list-style-type: none"> <li>i. Quad Chart</li> <li>ii. Target Product Profile (TPP) and Competitive Differentiation (CARB-X Template)</li> <li>iii. Project Structuring Approach</li> <li>iv. Go/No-Go Project Milestones Table</li> <li>v. Risk Register</li> </ul>	<p>Upload as a single <b>PDF</b> with elements incorporated within the SF application using the fillable template provided (Project Details section)</p>		<p>Confidential</p>
<p>Budget Workbook and Supportive Documents            Template Budget Workbook</p>	<p>File Upload as a <b>Spreadsheet</b> (Budget Workbook) with any Supporting Documents</p>	<p>Helpful Information Budget Workbook and Supportive Documents:            General Budget Feedback and Inclusions            Overview of Federal Grant Compliance Regulations for Profit            Overview of Federal Grant Compliance Regulations for Not-for-Profit</p>	

# Guidance for the Short Form Fillable Template

**Formatting requirements** - Applications that do not meet the following formatting requirements WILL NOT be reviewed. Do not change the formatting of the document.

1. The application must be formatted with a 12-point Times New Roman font. When pasting in tables etc. from other documents, other fonts may be acceptable if text is in 12-point simple font and easily visualized on screen.
2. The total number of Short Form pages cannot exceed **15**. Section A: suggested 10 pages in total and Section B: suggested 5 pages in total; however, the number of pages within each section is only indicative.
3. The Table of Content page is **excluded** from the 15 page limit. A total of 16 pages when saving as a PDF (including the Table of Content and Appendix) is allowed.
4. The application should be **DATA RICH**, including Figures and Tables where appropriate to support the status of the program. A word description of data is **not** adequate. Ensure the legends and the labeling of the figures and tables are clear to readily understand how the data were generated and the sources for the data points.
5. Confirm the footer continues to read “CONFIDENTIAL – CONTAINS TRADE SECRETS AND COMMERCIAL INFORMATION” on all pages. Confirm page numbers are inserted.
6. Do not remove hyperlinks.
7. No embedded files within the PDF.

Applications will be screened for content requirements prior to distribution to reviewers. Applications that do not meet the **content requirements** WILL NOT progress into the review process.

Do **not** include references or citations of foundational information on AMR. Do include data from your other programs if it helps to explain and/or validate your technology/approach.

## [Short Form Fillable Template](#)

The guidance text in the fillable template should be overwritten.

(Right click link and open)

# Section A: Project Details

The following items **must** be included within the Short Form Fillable Template:

- i. Quad Chart
- ii. Target Product Profile (TPP) and Competitive Differentiation (CARB-X Template)
- iii. Project Structuring Approach
- iv. Go/No-Go Project Milestones Table
- v. Risk Register

# Quad Chart

<p><u>Vision</u>: One sentence statement</p> <p><u>Objective</u>: Clear, concise, 2-3 sentence description of the objectives and methodologies of the project</p> <p><u>Target Product Profile</u>: Provide the following</p> <p>Intended Use for the dx test:</p> <p>Pathogen(s):</p> <p>Type of technology:</p> <p>Target ASP (Inst, Cartridge, etc):</p> <p><u>Description of Effort</u>: A bullet list (2-3 entries) of the scientific challenges to be addressed using the proposed CARB-X funding</p>	<p>Picture or Graphic illustrating the Instrument and/or cartridge and a flow diagram that shows the user steps and the time for each step from sample in to result out.</p>
<p><u>Benefits of Proposed Project</u>:</p> <p><u>Challenges</u>:</p> <p><u>Current Phase of Technology (choose from list below)</u>:</p> <ul style="list-style-type: none"> <li>• Feasibility</li> <li>• Optimization</li> <li>• Development</li> <li>• Verification &amp; Validation (Limited Scope)</li> </ul>	<p><b>Base Stage: total \$XXX / CARB-X \$YYY. Company cost share Z%. Duration # of months</b>            Bullet list of major goals/milestones by Major Milestones</p> <p><b>Option Stage 1: total \$XXX / CARB-X \$YYY. Company cost share Z%. Duration # of months</b>            Bullet list of major goals/milestones by Major Milestones</p> <p><b>Option Stage 2: total \$XXX / CARB-X \$YYY. Company cost share Z%. Duration # of months</b>            Bullet list of major goals/milestones by Major Milestones</p> <p><b>Option Stage 3: total \$XXX / CARB-X \$YYY. Company cost share Z%. Duration # of months</b>            Bullet list of major goals/milestones by Major Milestones</p>

SAMPLE

# Target Product Profile and Competitive Differentiation Matrix

CARB-X Diagnostics Target Product Profile		
Variable	Minimal Requirement	Ideal Requirement
<b>1. Product Use Summary/Differentiation Strategy</b>		
Intended Use(s)		
Proposed target populations		
Lowest infrastructure level		
Lowest level user		
<b>2. Design</b>		
Format		
Target analyte		
Sample type/collection		
Sample volume		
Detection		
Supplies needed		
Results Reported		
<b>3. Performance</b>		
Species differentiation		
Polymicrobial infections		
Analytic sensitivity/LOD		
Diagnostic/Clinical sensitivity		
Diagnostic/Clinical specificity		
Time to result (if culture required, also time from a positive culture)		
Throughput		
Target shelf life/stability		
Ease of use		
Results Interpretation and Output		
Operating Conditions		
<b>4. Manufacturing / Commercial Details</b>		
Target Cost of Goods Sold (consumables, instr., etc.)		
Target Average Sales Price (consumables, instr., etc.)		
Target launch countries / SRAs		

Competitive Differentiation Matrix			
	Competitor 1	Competitor 2	Competitor 3
<b>Overview:</b> Brief description of how the competitor is used clinically, whether it is considered standard-of-care.			
<b>Differentiation Areas:</b> What liabilities do the competitor products possess and which attributes will your product have/need to enable penetration into the marketplace? Add rows for each general category (e.g. affordability, throughput, TTR, sample type, existing install-base, etc.)			
<b>Clinical Comparator:</b> Will this product likely be a comparator used during development of your product?			

[Target Product Profile \(TPP\) \(CARB-X Template\)](#)

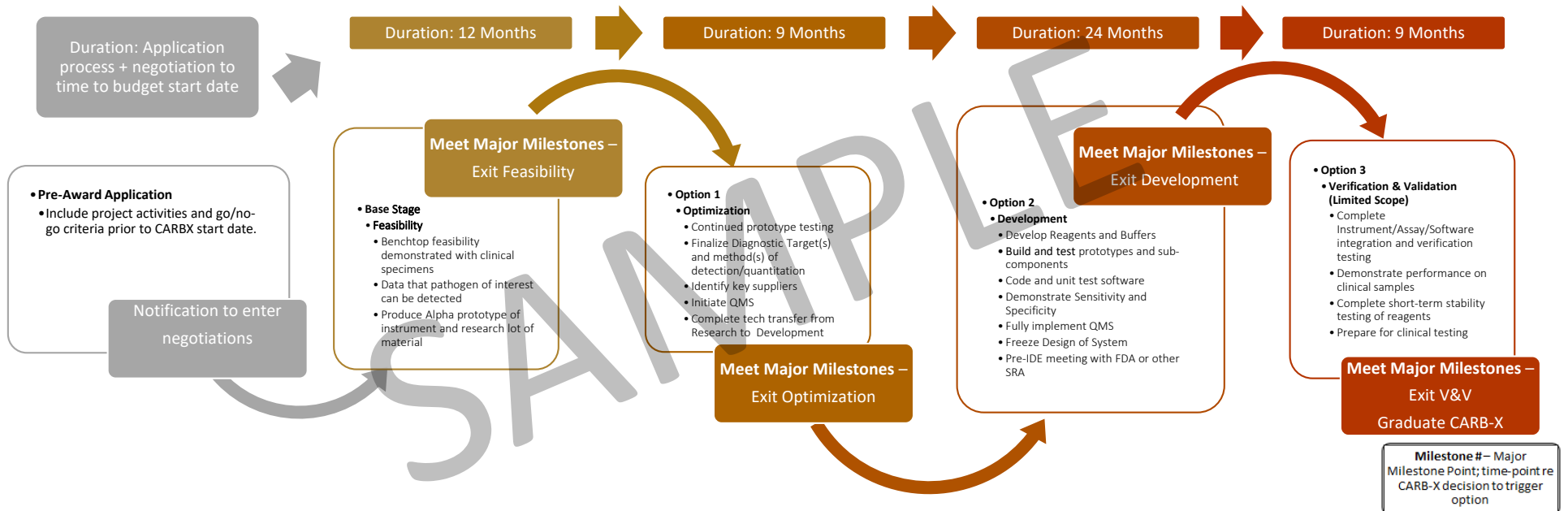
(Right click link and open)

The competitor products should also include those that are currently in clinical development and may represent the standard-of-care in the future.



Example (For project entering Feasibility Base Stage)

# Project Structuring Approach



This should include work that is planned to be carried out 1) between the application date and potential budget start date if awarded and, 2) work to be carried out during the timeline of the CARB-X supported project that might be funded outside of the CARB-X agreement.

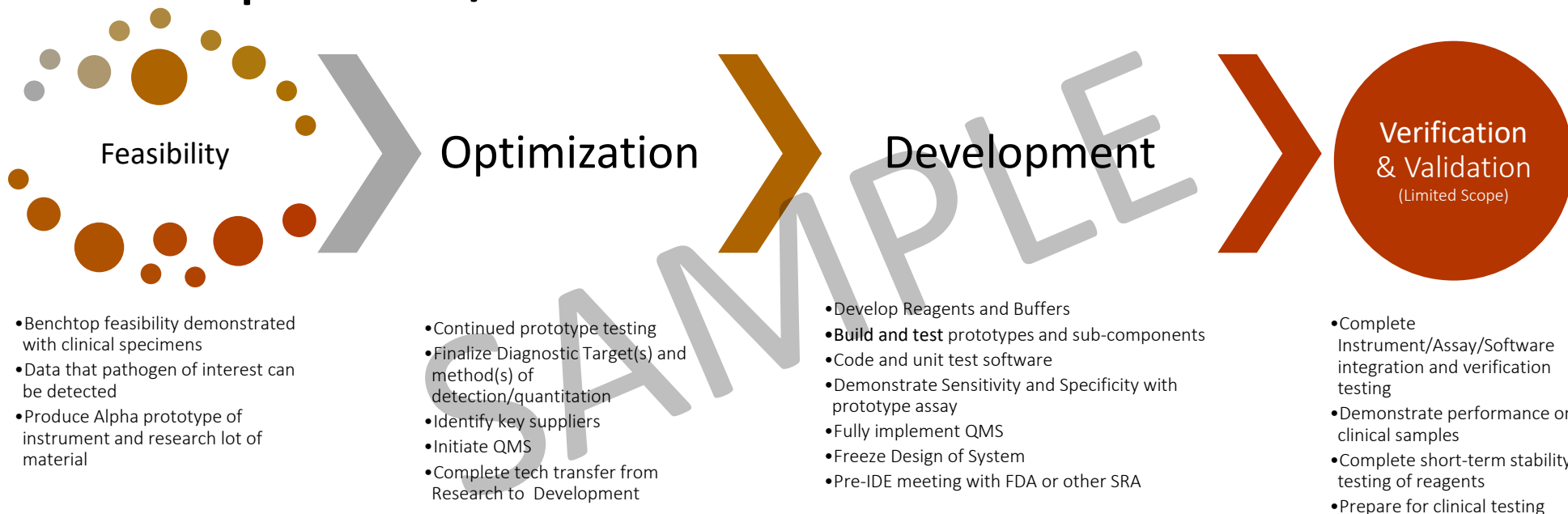
The above example of project structuring is **indicative only**. In many cases, the stages follow normal diagnostic development phases (i.e., BASE Stage = Feasibility, Option 1 = Optimization, etc.), but it is not a strict requirement (i.e. you may skip “Optimization”). The proposed structure should be what makes most sense for the specific needs of the project. Projects are not required to start from Feasibility nor to run through Verification & Validation (Limited Scope).

CARB-X’s scope of funding extends to Verification & Validation (Limited Scope). If applicant is interested in CARB-X support out to and including a clinical trial, this should be included now in your Short Form application (including appropriate details in Project Structure Approach, Milestones, Risk Register, Clinical expertise, Budget Workbook, etc.). If not included, applicant will need to submit a separate application in a future funding round to apply for additional funding.

# Go/No-Go Project Milestones

- The CARB-X Advisory Board needs to understand the full plan of activities and associated milestone Go/No-go criteria, and risk mitigation strategies, including those activities CARB-X is not being asked to fund. It is essential that CARB-X and its Ad Board members understand the holistic plan and the appropriate risk mitigation of it.
- Define the Major Milestone deliverable at the end of each stage (e.g. “Achieved LoD of X”).
- Identify measurable “Go Criteria” and “No-go Criteria” for each Go/No-go Project Milestone, including required reports to demonstrate completion of each Go/No-go Project Milestone within the proposed stage. Go/No-go criteria must be specific, objective, and quantitative.
- Include milestones for any other work (funded by other sources) that will be conducted concurrently during the CARB-X funding period, clearly marking these milestones as funded by other sources.
- Definitive and rigorous milestones will be viewed positively as communicating your organization’s understanding of the importance of making early and data-driven decisions.
- The following slide provide a framework for project milestones that can be used as a reference.

# Exemplar Go/No-Go Milestones



*These are indicative only and the expectation is that the project milestones are **quantitative or measurable** based on the individual project specifics.*

GO/NO-GO Project Milestones					
Milestone#	GO/NO GO Contract Milestones	Go Criteria	No-Go Criteria	Deliverable	Stage of Plan (Base, Option 1, etc.)
1					
2					
3					

# Risk Register

Please identify potential risks for your program, explaining the probability of occurrence and impact (level and nature) of the risk. Describe the mitigation strategy for each potential risk. Identifying the probability or impact of all risks as “low” would be viewed critically.

Risk Register				
Risk	Probability of Occurrence (High, Medium, Low)	Impact to Project (High, Medium, Low)	Nature of Impact (Cost, schedule, product profile etc.)	Mitigation Strategy

# High Level Budget Summary

A High-Level Budget Workbook is provided. **It is a high-level, preliminary/non-binding budget template to accompany the Short Form (SF) application.** It is not intended to be precise; rather, it serves to give CARB-X an idea of the requested costs and size of project. Applicants moving forward to the Long Form (LF) submission will have an opportunity to submit an updated, detailed budget at that later stage.

[Template Budget Workbook](#)

[Sample CARB-X Research Subaward Agreement](#)

(Right click links and open)

- A minimum cost share of 10% per stage is required from Feasibility through Development. V&V must meet minimum cost share of 20%.
- U.S. federal or state/local governments funds (including NIH and SBIR grants) cannot be used towards cost share
- UK government grants (e.g. Innovate UK and other UK sources) may count toward cost share, up to a specified limit. Contact CARB-X to discuss.
- Other non-US federal/state government grants may count toward cost share if written documentation of the sponsoring agency's approval is provided. Contact CARB-X to discuss.
- All expenses charged to cost share need to meet US federal compliance guidelines (e.g. animal and human subject compliance).
- Reimbursement for animal studies is only allowable after the animal compliance requirements are met.

For US-based companies, a 10% *de minimis* indirect rate is applicable unless your organization has an existing Rate Agreement with the federal government. Any existing Rate Agreement must be submitted with the Long Form Budget Workbook in CDR.

**\*\*CARB-X cannot sponsor any new requests for a federally negotiated rate agreement\*\***

CARB-X cannot fund any costs related to work carried out prior to the start of the period of performance. CARB-X funding is expected to begin at or after July 1<sup>st</sup>, 2020 for this funding round. Do not include any costs prior to this date in your budget.

Pre-award costs are strictly unallowable and cannot be reimbursed. However, in anticipation of a project start date;

1. Supply orders may be submitted before the study start date if
  - payment is submitted after the start date and
  - materials are received after the start date
2. Certain pre-study costs for animal and human subject research studies are allowable after the project start date including:
  - startup costs incurred for the purpose of holding a slot with the CRO
  - preparation of documentation for study protocols, IACUC approval, VAS documentation
  - personnel time for study planning and protocol review

# General Information

- ❑ Applicants who do not already have a DUNS number and are not already registered in the System for Award Management (SAM) should begin this process now to be able to move efficiently along the application process. Ultimately, successful applicants will be required to have a DUNS number and SAM registration.
- ❑ To obtain a DUNS number, access the Dun and Bradstreet website at <http://www.dnb.com/duns-number.html>, or call 1-866-705-5711.
- ❑ For SAM registration, access the SAM website at <http://www.sam.gov>, or by phone at 1-877-252-2700. User Guides and FAQ are available on the “Help” tab of the SAM website.

# Sample Scoring Tool

Scoring Tool that the Ad Board members will use to score your application.

[Sample Scoring Tool](#)

(Right click link and open)

SAMPLE

# Questions?

During the application process, your primary point of contact will be CARB-X ([carbxapp@bu.edu](mailto:carbxapp@bu.edu)).

[Frequently Asked Questions \(FAQ\)](#)

(Right click link and open)