RUTGERS
Center for Advanced Infrastructure and Transportation

PROJECT OVERVIEW REPORT

1. UTC Identifying Number
   69A3551847102

2. Center Identifying Number
   CAIT-UTC-REG72

3. Project Title
   Planning Project for Initiating a Large-scale 3D Printing Facility

4. Principal Investigator & Contact Information
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6. Customer Principal
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7. Project Description
   There is a need to advance the manufacturing process for improvements towards sustainable and resilient civil infrastructure. Recent developments in additive manufacturing technologies has enabled bespoke design and flexibility in on-site development or prefabrication of houses, buildings, and bridges. However, the automated nature of these advanced processes is one of the ways that prevents these technologies to be widely spread and adopted. 3D printing is an emerging and appealing topic in construction. The primary goal of this proposal is to identify the roadmap towards a successful and sustainable large-scale 3D printing facility to be used in construction of durable components of infrastructure.

8. Implementation of Research Outcomes (or why not implemented)
   The intended outcome of the project is a comprehensive review of 3D printing for transportation and/or general civil infrastructures, which can work as a fundamental knowledge base for decision-making process.

9. Impacts/Benefits of Implementation (actual, not anticipated)
   To Be Determined

10. Dates and Budget
    Start date: 12/1/2022
    End date: 3/31/2024
    UTC (CAIT) Dollars: $80,000
    Cost Sharing: $35,000
    Total Dollars: $115,000

11. Keywords
    3D printing; additive manufacturing; large-scale facility; comprehensive review; potential application; cementitious material

12. Web Links (Reports and Project Website)
    https://cait.rutgers.edu/research/planning-project-for-initiating-a-large-scale-3d-printing-facility/