D3 MAPPING AND DASHBOARD (CITY BIKE RACKS)

Business Requirements Document (BRD)

Version 1

VERSIONS AND APPROVALS

VERSION HISTORY

Version #	Date	Revised By	Reason for change
1.0	02/18/2022	Nafeeur Rahman	

This document has been approved as the official Business Requirements Document for **D3 MAPPING & DASHBOARD** and accurately reflects the current understanding of business requirements. Following approval of this document, requirement changes will be governed by the project's change management process, including impact analysis, appropriate reviews and approvals.

DOCUMENT APPROVALS

Approver Name	Project Role	Signature/Electronic Approval	Date
Nafeeur Rahman	Project Manager	Nafeeur Rahman	02/18/2022

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PROJECT DETAILS

Project Name	**D3 MAPPING AND DASHBOARD *(CITY BIKE RACKS)***
Project Type	***New Initiative***
Project Start Date	**01/31/2022**
Project End Date	**05/11/2022**
Project Sponsor	**Maddalena Romano**
Primary Driver	***Mandatory***
Secondary Driver	**N/A**
Division	**NYC Department of Transportation**
Project Manager/Dept	**Nafeeur Rahman**

OVERVIEW

This document defines the high level requirements **D3 MAPPING & DASHBOARD.** It will be used as the basis for the following activities:

- Creating solution designs
- Developing test plans, test scripts, and test cases
- Determining project completion
- Assessing project success

DOCUMENT RESOURCES

Name	Business Unit	Role
Maddalena Romano	**NYC DOT, Division of Asset Management**	**Project Sponsor**
Denis De Verteuil	**NYC DOT, Street Furniture Unit (OSIP)**	**Senior Project Manager**
Jennifer Most	**NYC DOT, Street Furniture Unit (OSIP)**	**Data Manager**

GLOSSARY OF TERMS

Term/Acronym	Definition
D3.js	https://d3js.org/
React	https://reactjs.org/
NYC Open Data	https://opendata.cityofnewyork.us/

PROJECT OVERVIEW

4.1 Project Overview and Background

The project will consist of an interactive map and dashboard which will use NYC Open data set for City bike racks and will display it on the map accordingly through D3.js and React. It will also provide the user with option to report an issue to DOT within the map. The motivation for the project is to provide an alternative to current City Rack map viewer which requires user's to navigate to a different site and to use ARTS for reporting an issue.

4.2 Project Dependencies

The project will take inspiration from the current City Rack map viewer. Additionally, the project will be dependent on technologies such as D3.js and React for its core functionality.

4.3 Stakeholders

The following comprises the internal and external stakeholders whose requirements are represented by this document:

	Stakeholders
1.	**NYC Department of Transportations**
2.	**Project Managers and Project Sponsors**
3.	**External Users**

KEY ASSUMPTIONS AND CONSTRAINTS

5.1 Key Assumptions and Constraints

#	**Assumptions**
1	The project will be completed by May 11th 2022
2	The project will not incur any additional costs
3	The final deliverables will meet all the requirements
#	**Initial Risks**
1	The project not being completed by the final deadline and not meeting all the business requirements
2	The project requiring additional human resources than initially anticipated

USE CASES

The project will consist of an interactive map and dashboard which will use NYC Open data set for City bike racks and will display it on the map accordingly through D3.js. The end user will have the ability to select a bike rack “point” with the location pointer and report issues regarding the selected bike rack. The point will call a card view which will show the necessary details about the bike rack. There will be a “new request” button at the bottom of the card and upon clicking it, the user will be presented with another card with three options “Report Condition”, “Report Missing”, and “Request Temporary Removal”. Under “Report Condition”, the user will have further options of selecting “Loose”, “Damaged” or “Down”. After selecting the desired issue, the user will submit the request to NYC DOT. All of the actions can be completed within the map without navigating to a different website. Upon receiving the request the NYC DOT team will verify and update the database accordingly.The dashboard will also consist of a time slider, that will assist the user navigate through different timelines of the data set. Additionally, a search functionality which can used to locate a certain bike rack in the city.

Use Case Diagram

(Please see WireFrame at pg. 9)

Use Case Narrative

Use Case ID:	1		
Use Case Name:	Selecting a point on the map and reporting an issue to DOT		
Created By:	Nafeeur Rahman	Last Updated By:	
Date Created:	02/18/2022	Date Last Updated:	

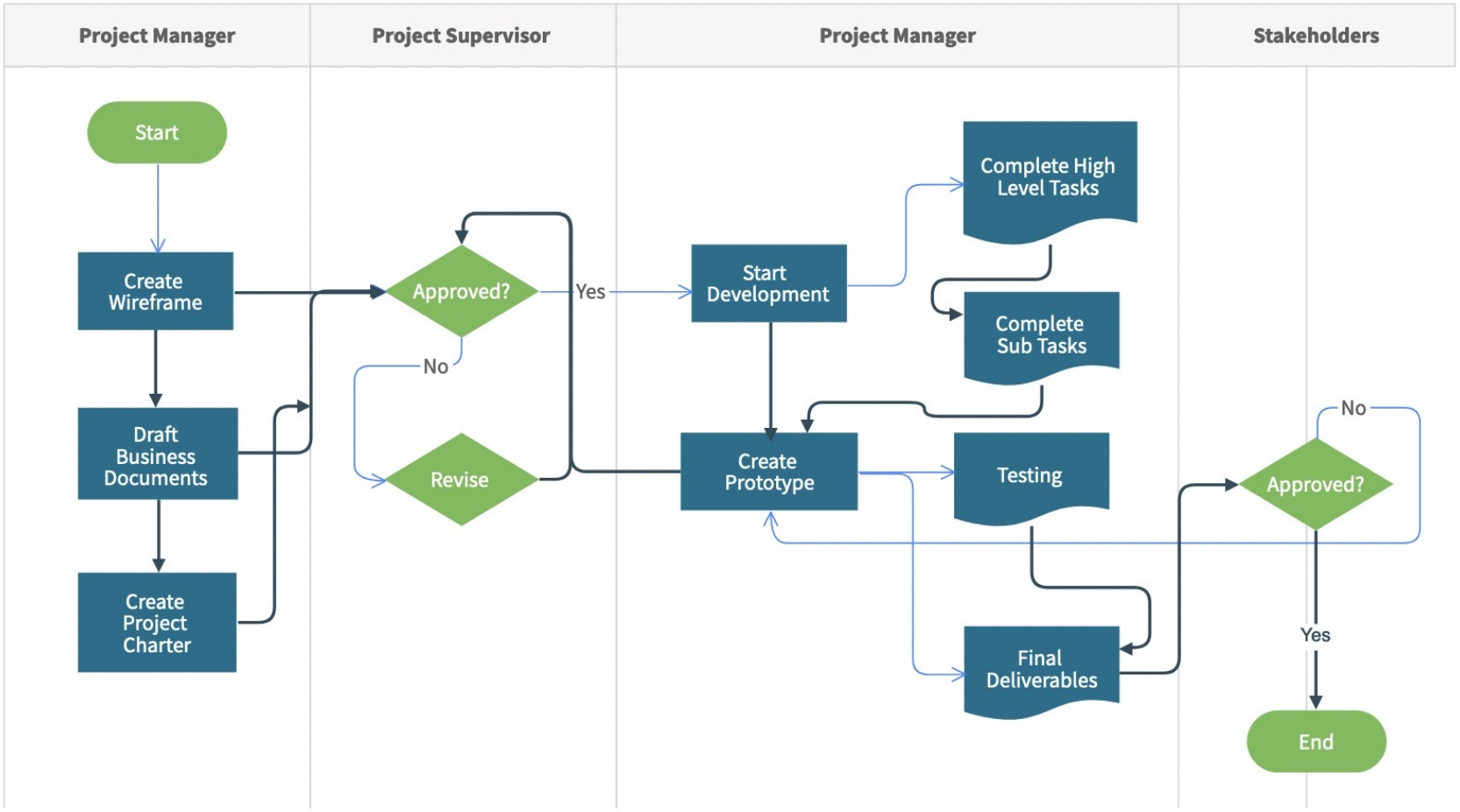
Actors:	User
Preconditions:	The web-app loads on the browser
Postconditions:	The user navigates through the map and pins a location
Normal Course:	1. Selects a point 2. Presses “New Request” button 3. Reports an issue
Alternative Courses:	User uses the search bar to locate the point.
Exceptions:	N/A
Includes:	N/A
Priority:	High
Frequency of Use:	Unlimited visit per day
Business Rules	N/A
Special Requirements:	• 24/7 access • Response times comparable to common web mapping solutions (e.g. Google Maps) • Additional information regarding the map
Assumptions:	The technology working as expected without downfall
Notes and Issues:	N/A

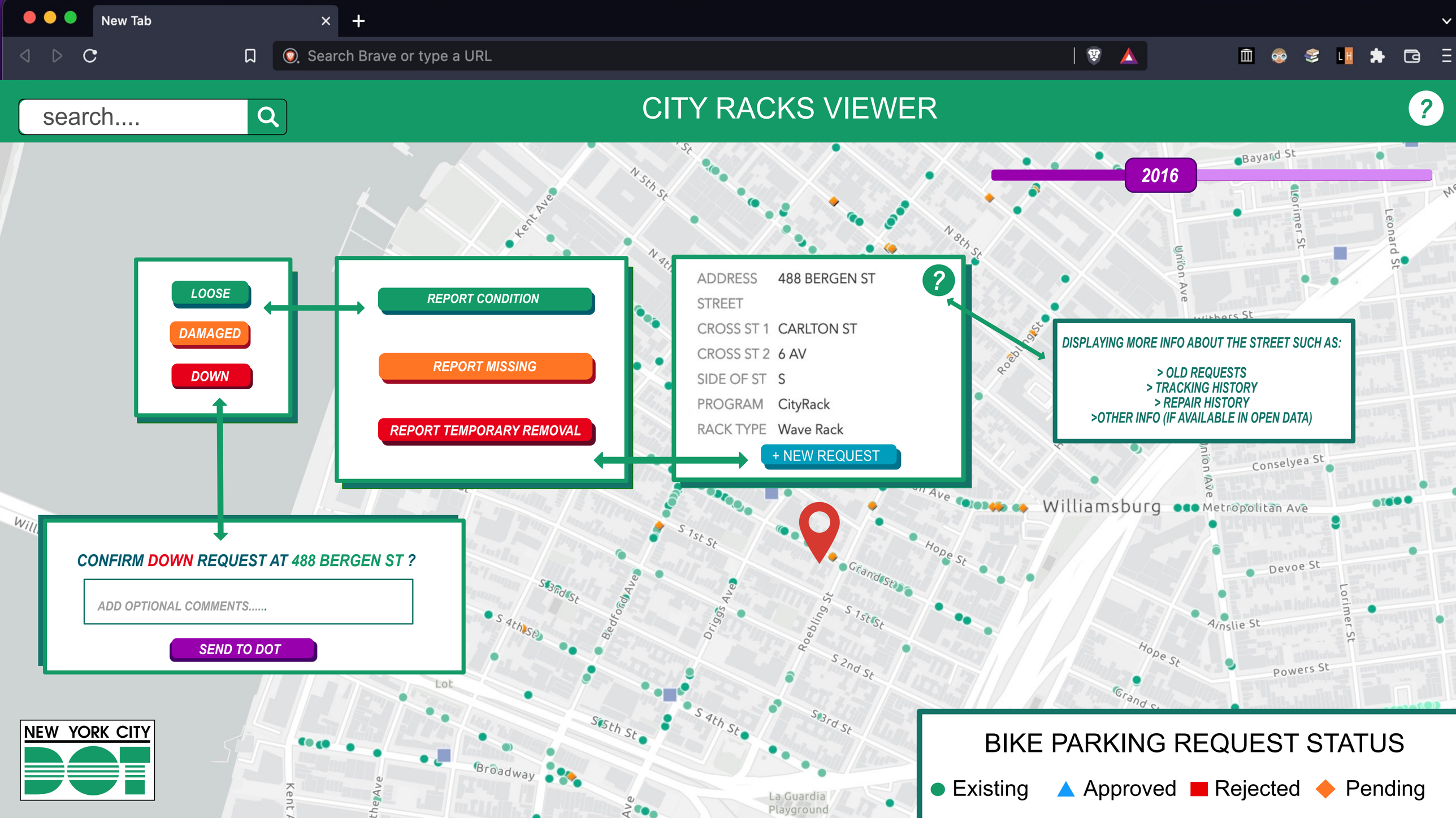
BUSINESS REQUIREMENTS

The following section document the various business requirements of this project

Requirement Type	ID – Prefix	ID Number	Function - Feature - Requirement	Use Case Reference	Required				Comments
	Business User Requirements								
	F	0001	A DYNAMIC MAP USING D3		Y				
	F	0002	A DASHBOARD		Y				
	F	0003	THE MAP DISPLAYING CORRECT DATA		Y				
	F	0004	USER ABLE TO CLICK ON A POINT		Y				
	F	0005	USER ABLE TO REPORT AN ISSUE TO DOT		Y				
	F	0007	A TIME SLIDER AND SEARCH BAR		Y				
	F	0007							
	F	0008							
	Reporting, Data Requirements								
	F	0001	NYC OPEN DATA		Y				
	F	0002							
	F	0003							
	Security, Access Control, and Compliance Requirements (Includes roles, user access needs)								
	F	0001	ANY PUBLIC USERS WILL ABLE TO VISIT THE WEBSITE AND ISSUE REPORTS		Y				
	F	0002	ONLY DOT EMPLOYEES HAVE ACCESS TO BACKEND		Y				
	Service Level Requirements (Includes Service Level, Scalability, and Performance)								
	F	0001	THE WEB APP RUNNING AS EXPECTED WITHOUT ANY MAJOR DOWNFALLS		Y				
	F	0002							
	Support and Maintenance Requirements								
	F	0001	WILL BE MAINTAINED AND UPDATED THROUGH GITHUB		Y				

Business Process Flows




New Tab
Search Brave or type a URL
search....
CITY RACKS VIEWER
2016
LOOSE
DAMAGED
DOWN
REPORT CONDITION
REPORT MISSING
REPORT TEMPORARY REMOVAL
ADDRESS 488 BERGEN ST
STREET
CROSS ST 1 CARLTON ST
CROSS ST 2 6 AV
SIDE OF ST S
PROGRAM CityRack
RACK TYPE Wave Rack
+ NEW REQUEST
DISPLAYING MORE INFO ABOUT THE STREET SUCH AS:
> OLD REQUESTS
> TRACKING HISTORY
> REPAIR HISTORY
>OTHER INFO (IF AVAILABLE IN OPEN DATA)
CONFIRM DOWN REQUEST AT 488 BERGEN ST ?
ADD OPTIONAL COMMENTS.....
SEND TO DOT
Williamsburg
Metropolitan Ave
Broadway
La Guardia Playground
NEW YORK CITY DOT
BIKE PARKING REQUEST STATUS
Existing
Approved
Rejected
Pending