



Suhaib Alsahybi, Sage Ashique,
John Ortiz, Paridhi Sharma, Eren Yuceer

OPERATION3SL **PROJECT CHARTER**

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VERSION HISTORY

Version #	Implemented By	Revision Date	Approved By	Approval Date	Reason
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1 INTRODUCTION

1.1 PURPOSE OF PROJECT CHARTER

The Operation3SL project charter documents and tracks the necessary information required by decision maker(s) to approve the project for funding. The project charter should include the needs, scope, justification, and resource commitment as well as the project's sponsor(s) decision to proceed or not to proceed with the project. It is created during the Initiating Phase of the project.

The intended audience of the Operation3SL project charter is the project sponsor and senior leadership.

2 PROJECT AND PRODUCT OVERVIEW

The operation 3SL Project is designed to support the current policies of New York City to decrease the fatalities. According to the statistics, 4000 New Yorkers are seriously injured and more than 250 is killed each year. Even though the current precautions and the projects decreased the fatalities and injuries from 2012 to 2018, we believe in that there should be a data reporting system to evaluate the reasons of the fatalities and finding out the specific areas to improve the efficiency of the New York City's policies against injuries.

Operation 3SL is a data reporting product to analyze the areas within 5 boroughs in New York City to determine the areas where the fatalities most occurs and using the analysis produced by the report to take precaution for possible future fatalities in the same areas. The data feed for the data reporting system is planned to be taken from the government's open data sources. The analyses will be based on the zip code, street name & number, the reason of the fatalities and injuries.

The current Vision Zero's purpose is to eliminate all traffic deaths and serious injuries on New York City streets by 2024. The main goal of Operation3SL is to focus on the fatalities and injuries caused by New York City drivers and foster the process of reducing both fatalities and injuries caused mainly due to human fault. The objective is to reduce fatalities by 10% year to year through 2021.

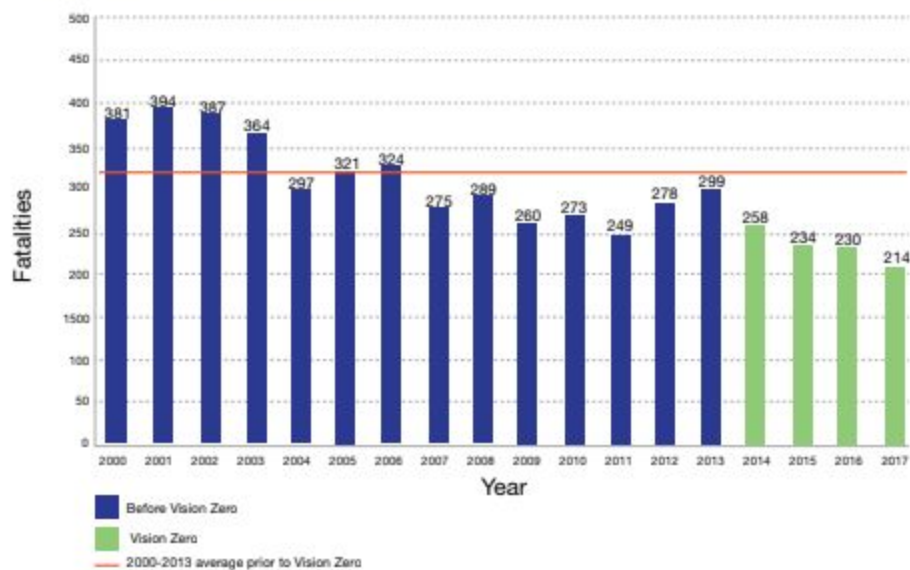
3 JUSTIFICATION

3.1 BUSINESS NEED, CURRENT SITUATION AND PROBLEM STATEMENT

The current policies need an improved reporting tool to specify the areas where fatalities occur most frequently. After the implementation of Vision Zero, there have been significant decreases in injuries and accidents. Operation3SL believes that the current system can work better with an effective data reporting tool. The current problem with VisionZero is that even if it prevented the fatalities and

reduced them from 258 to 214 between the years of 2014 to 2017, the rate of fatality decrease per year has slowed down.

NYC Traffic Fatalities 2000-2017



¹ NYC Fatalities 2000-2017

The reason why the amount of the fatalities were so high before 2014 was that there wasn't a system in place to remedy it. After the implementation of Vision Zero, the amount of fatalities decreased much faster than the average of 2000-2017. But while fatalities have been decreasing, the rate at which they decrease in the last three years started at 9.3%, dipped to 1.7% and ended at 7% in the most recent year. Maintaining a consistent reduction rate in fatalities is very important in the overall mission of vision 0, which is to get the number of traffic deaths down to 0.

While the implementations in 2013 may have been good for the time, year to year updates are imperative in order to maintain the success of the overall program. The current environment needs a reporting tool to increase the efficiency in reducing fatalities caused by vehicle accidents. A data report is necessary to identify areas with high rates of vehicle accidents. Using this report, the city can add live 24/7 security monitoring to these locations and penalize any motorist who are caught speeding or breaking red lights, implementing new speed limits to the streets if it is necessary and if the street already has speed camera, the location and the efficiency of the speed cam can be re-checked with the help of the report. With the data report tool, the percentage of decreasing the fatalities can be expedited to reach the goal of the Municipality.

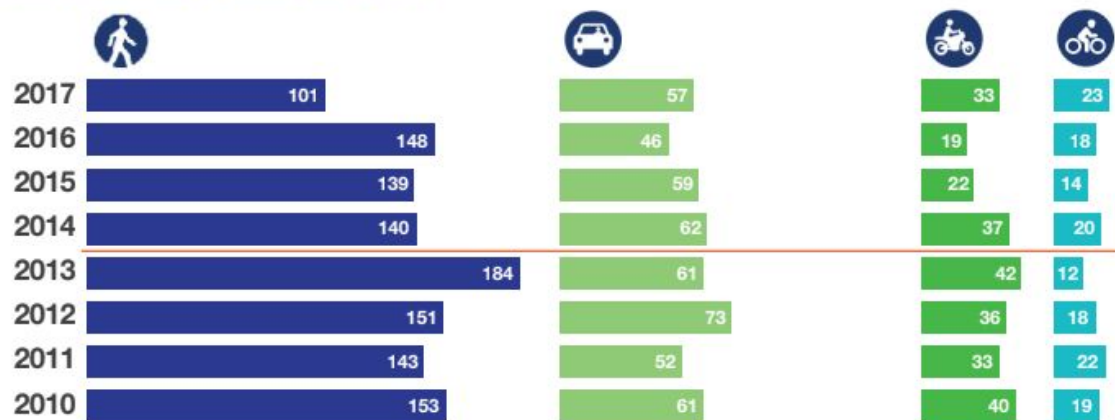
¹ (2018, March) Vision Zero Year 4 Report| Retrieved from :
<https://www1.nyc.gov/assets/visionzero/downloads/pdf/vision-zero-year-4-report.pdf>

3.2 PUBLIC HEALTH AND BUSINESS IMPACT

In the overall of the Operation3SL project, there are three main focus points that are targeted:

- Benefits to **pedestrians**: With the precautions will be taken by the analysis taken from data reporting tool, the Operation3SL aims to create safer streets for pedestrians. According to the Four Year report of Vision Zero, pedestrians are the main party that is affected by the accidents caused by the vehicles. The safety of the streets especially around the school areas is must. New York City is a walking city and the most vulnerable road users are pedestrians. The data report will work to issue new speed limits for the fatalities occurs in high level of pedestrian activity.

NYC Fatalities by Mode 2000-2017



Source: NYC DOT & NYPD²

- Benefits to **drivers**: Creating safer streets by new implementations will create secure environment for the drivers. Mainly car accidents results in damage to the cars, and the victims of the car accidents generally suffers from the long insurance processes, or even they fear to drive a car again. The tool will be used to place new speed cameras to the locations to issue penalty for the drivers who violates the traffic & speed limit rules. These specific actions are aimed to build safer roads for the drivers.
- Benefit to **municipality**: The current Municipality's goal is to prevent every single tragedy on New York City streets and eliminate whole fatalities and injuries in 2024. The Operation 3SL project is aiming to help the Municipal of the New York City's goal by decreasing the fatalities caused by vehicle accidents by 10% per year through 2021.

² (2018, March) Vision Zero Year 4 Report| Retrieved from :
<https://www1.nyc.gov/assets/visionzero/downloads/pdf/vision-zero-year-4-report.pdf>

4 SCOPE

4.1 OBJECTIVES

The Operation3SL's strategic goal is to to aid reduce the number of New York City traffic related fatalities down to 0

The four main objectives of the Operation3SL are as follows:

1. **Analyze existing traffic data:** The historical data taken by the government's open sources will be gathered. The data will be cleaned out and will be sorted according to the years and the location of the fatalities incurred.
2. **Identify areas with high rates of vehicle accidents:** The data will be mapped through the boroughs. The report will provide KSI (killed or seriously injured) numbers to make a prioritization list to show in which places actions needs to be taken first.
3. **Forecast the impact of adding traffic cameras to areas Identified:** If the reason of the fatalities caused by violating the speed limit, the area will be considered as new speed/safety camera needed. The impact of adding cameras or issuing a new speed limit to the current area will be forecasted.
4. **Consolidate findings into data report:** The findings coming from the data will be gathered into a single dashboard to make to data evaluating more user-friendly and easy to read which will help to take a decision better.

4.2 HIGH-LEVEL REQUIREMENTS

The following table presents the requirements that the project's product, service or result must meet in order for the project objectives to be satisfied.

Req. #	Requirement Description
01	<i>Identify areas with high rates of vehicle accidents.</i>
02	<i>Forecast the impact of adding traffic cameras to areas Identified</i>

4.3 MAJOR DELIVERABLES

The following table presents the major deliverables that the project's product, service or result must meet in order for the project objectives to be satisfied.

Major Deliverable	Deliverable Description
Areas	Sub-report detailing the areas of high rates
Forecast	Sub-report forecasting the impact of traffic cams
Data Report	Complete final report

4.4 BOUNDARIES

In-scope:

- *Identifying the areas with the high rate of vehicle accidents*
- *Forecasting*
- *Data Report*

Out-of-Scope:

- Implementation of Traffic Cams
- Issuing a new speed limit to the specific streets

5 DURATION

5.1 EXECUTIVE MILESTONES

09/24/2018	Deliverable	Project Charter
		<ul style="list-style-type: none"> - Kick-off Meeting - Gather Data Sets - Ask questions <ul style="list-style-type: none"> - With some context (after a quick glance at the data dictionary) Look at the data and come with questions to investigate
10/15/2018	Meeting	Phase I - Problem Definition
		<ul style="list-style-type: none"> - Discuss which type of analysis we are going to conduct <ul style="list-style-type: none"> - Practical/Inferential Statistics - Machine Learning (Forecast) - Discuss the components of our data infrastructure <ul style="list-style-type: none"> - Excel, SQL, Python, Local Vs Cloud Data hosting, etc - The problems of the current environment and the current system
11/12/2018	Meeting	Presentations: Phase II - Design
		<ul style="list-style-type: none"> - Data Wrangling <ul style="list-style-type: none"> - Making sure we have all the data needed and in great quality. - Assess data to identify any problems in quality or structure - Clean data by modifying, replacing, or removing data to ensure that your dataset is of the highest quality and as well-structured as possible.
12/03/2018	Meeting	Presentations: Phase III - Prototype
		<ul style="list-style-type: none"> - Exploratory Data Analysis <ul style="list-style-type: none"> - finding patterns in the data, visualizing relationships in the data, and building intuition. - After exploring, I could do things like removing outliers and creating better features from the data, also known as feature engineering.
12/10/2018	Meeting	Presentations: Phase IV - System Implementation

		<ul style="list-style-type: none"> - Draw Conclusions - Communicate Findings <ul style="list-style-type: none"> - Reports, slide decks, blog posts, emails, presentations, or even conversations. - Finalize Report
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6 BUDGET ESTIMATE

6.1 FUNDING SOURCE

New York City Mayor Bill de Blasio is planning to bolster his Vision Zero program with an additional \$400 million stretched out over six years. The program is now funded with \$1.6 billion through 2021³. A small portion of this total budget has been allocated towards tightening the 24/7 security monitoring of intersections with high accident rates. Approximately 5% of this budget (80 Million) is dedicated towards data driven solutions.

The bulk of the requested budget for Operation3SL will be for the Data Analysts, Developers, Business Analysts, and Project Managers. A small portion will go towards the applications and tools required as well as licensing costs. Data collection will have no cost since the city has a huge archive of historical data required for the project.

6.2 ESTIMATE

This section provides a summary of estimated spending to meet the objectives of the Operation3SL project as described in this project charter. This summary of spending is preliminary, and should reflect costs for the entire investment lifecycle. It is intended to present probable funding requirements and to assist in obtaining budgeting support.

Position	# of	Annual Cost Per	Annual Total	Project Hire Total (4 Month Fee)
Tableau Developer	1	\$105,000	\$105,000	\$35,000
Data Scientist/Analyst	2	\$115,000	\$230,000	\$76,667
Business Analyst	2	\$100,000	\$200,000	\$66,667
Project Manager	1	\$110,000	\$110,000	\$36,667
Budget Item (All paid yearly up front)	# of			Project Application Fees Total (Yearly Fee)
Tableau License	1	\$840	\$840	\$840
Tableau Server (First Year)	1	\$1,000	\$1,000	\$1,000

³ Nessen, Stephen (2017, Jan 23). **Mayor's Budget Increases Funding for Vision Zero** | WNYC. Retrieved from <https://www.wnyc.org/story/mayors-budget-adds-funds-for-vision-zero-budget/>

Amazon S3 Cloud Service	1	\$4,200	\$4,200	\$4,200
TOTAL COST FOR PROJECT				\$221,040

7 HIGH-LEVEL ALTERNATIVES ANALYSIS

1. Issue neighborhood mail/phone surveys with the expectation of a high number of accurate responses
2. Go through NYPD records and manually try to derive high accident locations using existing tools.

8 ASSUMPTIONS, CONSTRAINTS AND RISKS

8.1 ASSUMPTIONS

This section identifies the statements believed to be true and from which a conclusion was drawn to define this project charter.

1. *There is a lack of existing speed cameras placed throughout the city.*
2. *The addition of speed cameras will aid in the reduction traffic fatalities*
3. *The existing speed cameras is not placed in correct locations to work 100% efficiently.*

8.2 CONSTRAINTS

This section identifies any limitation that must be taken into consideration prior to the initiation of the project.

1. *Depth of data analysis is limited to*
 - a. *The amount of data*
 - i. *Not enough historical data available, both before and after data cleaning, to perform an analysis*
 - ii. *Non-existent or not enough of the right kind of data to analyze to reach a specific conclusion*
 - b. *Data Quality (Dirty Data)*
 - i. *Missing data*
 - ii. *Duplicate data*
 - iii. *Incohesive data types*
 - iv. *Incohesive Formatting*

8.3 RISKS

The project carries several risks. These risks can be categorized under: wrong forecast % sustainability of the report.

- **Analyze & Forecast percentage:** The findings and the decisions which will be taken as a result of the report can be falsified by the wrong inputs. The inputs in this case are data coming from the government's open source data. Yet, these datas are basically gathered from the NYPD's records collected from the officers, and also the records from the hospitals. If the reason of the fatalities such as if it is the fault of the pedestrian or the vehicle is recorded wrongly in one of these resources, it can falsify the numbers in the report.
- **The sustainability of the data reporting tool:** The data of the tools would be being got by the sources from other parties such as the government reports, NYPD reports and the Hospital reports. To keep the report active, these parties should be allowing the Operation3SL to gather their data.

Risk	Mitigation
Analyze & Forecast percentage	Comparing the records of different resources to ensure that data is correct and accurate. It will lower the percentage of analyze & forecast error.
The sustainability of the report	Agreeing with these parties in advance can increase the sustainability of the report.

9 PROJECT ORGANIZATION

9.1 ROLES AND RESPONSIBILITIES

This section describes the key roles supporting the project.

Name & Organization	Project Role	Project Responsibilities
Ashish Ajmera	Project Sponsor	Responsible for acting as the project's champion and providing direction and support to the team. In the context of this document, this person approves the request for funding, approves the project scope represented in this document, and sets the priority of the project relative to other projects in his/her area of responsibility.
Paridhi Sharma	Project Manager	Person who performs the day-to-day management of the project and has specific accountability for managing the project within the approved constraints of scope, quality, time and cost, to deliver the specified

		requirements, deliverables and customer satisfaction.
Suhaib Alsahybi	Business Analyst	Interact with the business stakeholders and subject matter experts in order to understand their problems and needs. Gathers, documents, and analyzes business requirements. Uses data and data models from Data Analyst to create report and make strategic decision.
Sage Ashique	Business Analyst	
John Ortiz	Data Analyst	Extract data from reliable sources, and inspect, clean and model the data to discover useful information that the business may need to make strategic decision
Eren Yuceer	Data Analyst	

9.2 STAKEHOLDERS (INTERNAL AND EXTERNAL)

Internal Stakeholders	External Stakeholders
<ul style="list-style-type: none"> • Mayor's Office • Project Sponsor • Project Team 	<ul style="list-style-type: none"> • Public • NY Chief of Police Department • NY Chief of Department of Public Health • NY Chief of Department of Transportation

10 PROJECT CHARTER APPROVAL

The undersigned acknowledge they have reviewed the project charter and authorize and fund the Operation3SL project. Changes to this project charter will be coordinated with and approved by the undersigned or their designated representatives.

Signature: _____ Date: _____
 Print Name: Ashish Ajmera
 Title: _____
 Role: Project Sponsor

11 APPENDIX

Resources:

ANNUAL REPORT for Vision 0

<https://www1.nyc.gov/office-of-the-mayor/news/156-18/de-blasio-administration-releases-annual-vision-zero-report>

(Includes details about how crash data has dropped, i.e. The original priority locations introduced in 2015, based on 2009-2013 data, averaged 142 traffic deaths per year in that period. In 2017 that number was 100 deaths, a 30 percent decline. Pedestrian fatalities have seen the greatest fatality decline among all modes of travel, dropping by 45 percent, from 184 in 2013 to 101 in 2017.)