

Development Of Traffic Sign Asset Management System

Nallathambi. G (P6815PTN06)

PG Student, Prist University, Thanjavur

Abstract

Asset management is a systematic process of maintaining, upgrading and operating assets. Several agencies are applying asset management principles as a business tool and model to help them define goals and prioritize agency resources in decision making. Road asset management is focused on bridges, traffic signs, pavement markings, culverts.

This project focuses on the development of traffic sign asset management system. For this we have to conduct a visual night time inspection method to find the Retro-reflectivity of a sign. This survey will be conducted at regular night time intervals. This survey will be conducted at minimum vehicle distances with vehicle high beam lights. And some of traffic signs should be failed the test they should not visible to the driver. And some signs need for maintenance.

The study findings indicate that making a business case for formal asset management programs. In the management study, we have to take manufacture cost of each sign and maintenance cost of the signs. For this we need to replace the some signs and maintenance should be required for some signs. And should note the latitude and longitude of the sign and create a file in the arc GIS and should plot a position of the each sign.

Introduction

Asset management is defined as “ A systematic process of maintaining, upgrading and operating assets, combining engineering principles with sound business practice and economic rationale, and providing tools to facilitate a more coordinated and flexible access to preparing the decisions necessary to reach the public’s expectations”.

Assets of the road network as

- 1) Physical information such as roads and bridges.
- 2) Equipment and the resources.

- 3) Data, computer systems, methods and technology.

Components of Asset Management

An asset management system holds all processes, tools, data and also policies necessary to achieve the goal effectively managing the assets. Although the concept of “system” does not usually focused on data requirements, an effective approach to a managing the assets as an integrated system should include the data required to meet the asset management objectives. This implies that in general, an AMS will consist of the following components:

- Goals and plans of organization.
- Data
- Resources and also budget details.
- Performance model for another strategies and program development.
- Project selection criteria
- Implementation of program.

Problem statement

The road network creates one in each of the most important community assets and this predominately government closely-held. The agencies are liable for the transport infrastructure, maintain, operating, improve, replace and preserve this asset. At identical time the economic and human resources needed to achieve the performance objective of the road network and may be managed fastidiously. All carefully accomplished below the shut study of the final public World Health Organization get this a district of the transport system, area unit regular users of this place and increasingly demand improved levels of quality, in terms of safety, reliability and luxury, from the road network.

Roads and highways offer the dominant mode of land transportation. They kind the backbone of the economy, typically carrying over eighty per cent of passengers and over fifty per cent of freight in a very country, and providing essential links to large rural road networks. Roads square measure among the foremost necessary public assets in several countries. Enhancements to roads

bring immediate and typically dramatic edges to communities through higher access to hospitals, schools, and markets, bigger comfort, speed, and safety; and lower vehicle in operation prices Governments is placing greater pressure on road administrations to improve the efficiency of roads and accountability for the management of community assets. In some of the countries like Canada, the United States and Australia face formal accountability and reporting requirements on how they manage their assets.

Data Analysis

Asset management systems generally carry out the following data analyses:

- Interpretation of the condition information gathered on the individual holdings.
- Identification of "ideal" medicines..
- prioritisation of upkeep medicines against plan
- Prioritisation of maintenance treatments against budgets.

Holding administration for the most part looks at such components as venture levels, support norms and budgetary vitality. Regarding base administration, these variables may be interpreted into different measures of execution of the advantage, including level of utilization, wellbeing and ecological effect. Possession administration will hence be affected by topographical and socio-monetary circumstances in the association and the business methods received.

The estimation of the benefits will be ascertained utilizing perceived and acknowledged bookkeeping practices. The calculation of the value of the asset is not generally included in management systems for individual assets.

Information investigation could be of a specialized, budgetary, or general nature and not every kind of dissection will be utilized similarly as a part of all levels of an association. All in all, distinctive parts of an association will complete information investigates at diverse levels of subtle element. The shows underneath cases of the sorts of information investigates did by a street organization and which may profit from the utilization of an advantage administration framework.

Steps followed in arc GIS

- Get the latitude and longitude in an excel sheet
- Import the excel sheet to arc GIS
- Define the x and y values in arc GIS
- Then the point of features opened in the arc GIS
- Convert the point features into a layer feature using the arc GIS tool
- Then convert the layer to (. kml) format for viewing the layer file in Google earth

- Open Google earth and import the (. kml) file to open in Google earth

Conclusions

The goal of analysing the asset management of traffic signs. Can minimize sign asset costs while maintaining a high level of safety on local and state roads. These observations are compared with the AASHTO specifications and there is a minor percentage of error, so these values are reliable for the further analysis of the study. In my study around 75% of the signs are visibility and legibility properties are according to the standards.

- Some of the regulatory signs need to be changed because the reflectivity of signs is less and maintenance should be required for 3 signs.
- Some of The informatory signs should be re replaced because the directions of the signs not visible from a certain distance.
- Parking signs should be visible from the all the distances and angles.
- Manufacture cost and maintenance cost for all the signs is estimated.
- These costs should be changed year by year and this should be based on the population, traffic volume and market prices.

References

- Harris (2007), *Analysis of Traffic Sign Asset Management Scenarios*, transportation research board journals.
- Zongwei Tao, *Asset Management Model and Systems Integration Approach*, transportation research record.
- Sue McNeil, Paper No. 00-0314, *asset management*, transportation research record.
- Odd J. Stalebrink, Paper No. 00-1135, *Transportation Asset Management*, transportation research record.
- Petri Jusi, Paper No. LVR8-1053, *Road Asset Management System Implementation in Pacific Region*, transportation research record.
- Pannapa Herabat, Paper No. 03-4251, *Web-Based Rural Road Asset-Management System*, transportation research record.
- Omar Smadi, pp. 16–18, *Infrastructure Asset Management Education*, transportation research record
- Michael J. Markow, (2008), pp. 78–86, *Current Asset Management Practices Applied to Pavement Markings*, transportation research record.
- Highway Statistics 2004. Table HM-80. Federal Highway Administration, U.S.Department of Transportation.
- www.fhwa.dot.gov/policy/ohim/hs04/html/m80.htm. Accessed July 29, 2006
- *Maintaining Traffic Sign Retro-reflectivity*. FHWA-SA-03-027. Federal Highway Administration, U.S. Department of Transportation. [fhwa. dot. Gov./roadway_dept/docs/maintain_sign_retro.pdf](http://fhwa.dot.gov/roadway_dept/docs/maintain_sign_retro.pdf). Accessed July 29, 2006.
- Mohammad Najasi (2010), *Development of a culvert inventory and inspection Framework for asset management of road structures*. Centre for Underground Infrastructure Research and Education (CUIRE).
- Kraus, D. (2004). *The Benefits of Asset Management And GASB 34. Leadership and Management in Engineering*, 4 (1), 17-18.
- *Asset management data collection prepared by Gerardo W. Flintsch Center for Safe and Sustainable Transportation Infrastructure*.
- *Infrastructure and asset management plan of City of Tea Tree Gully (2013)*.
- Geiger, D., Wells, P., Bugas-Schramm, S. Merida, D., et al. (2005). *Transportation Asset Management in Australia, Canada, England, and New Zealand*. Federal Highway Administration.
- Federal Highway Administration (FHWA). (1999). *Asset Management Primer*.



*Federal Highway Administration United
States Department of Transportation.*

- *Mohd Zulkifli et .al (2010), paper no 2,
215-219,journal of geographic
information system.*