A sustainable asset management transportation and safety model can better help determine the infrastructure and safety needs in metropolitan areas.

Objective

The objective of this project was to create a sustainable asset management transportation and safety model for a designated area of St. Louis, Missouri, that can be replicated in other municipalities.

Problem Statement

The transportation and safety needs in urban areas, particularly inner-city blocks, are not well understood.

Project Description

The research team identified a 45-block area in downtown St. Louis, Missouri, for the study. The team conducted a feasibility study that examined road conditions; vehicle and pedestrian control at streets, sidewalks, crosswalk lights, and bike paths; street lighting; needed repairs; and associated costs with a future projection of asset allocation.

The research team employed quantitative, qualitative, and observational research methods, including present serviceability ratings (PSRs) and pavement condition ratings (PCRs). They also identified economic, social, and safety variables to help establish a transportation asset management program.

The team also employed outreach activities engaging various constituents that included the city of St. Louis, its street and sidewalk departments, the Missouri Department of Transportation, elected officials, businesses, and local residents.

Key Findings

The research team successfully created a sustainable asset management transportation and safety model. The technologically driven economic, social, and safety model was developed for the St. Louis Street Department within the designated area of the metropolitan area, which can be replicated by similar municipalities.

Recommendations

The research team made recommendations, based on its study, to the St. Louis Street Department for repairs and replacement that totaled $3,846,542 in the 45-block area.
The specific breakdown of the costs is as follows:

- Street repairs: $3,620,600
- Sidewalks: $186,542
- Bike paths: $33,800
- Crosswalk lighting: $5,600
- Street lighting: $0

The team also presented strategies for more proactive street, sidewalk, and lighting maintenance and repairs.

**Implementation Readiness and Benefits**

The team developed a sustainable asset management transportation and safety model that can be replicated in other urban areas.

The team is also moving forward with an assessment of other factors in the community that they studied, including real estate values, bus stop shelters, crime rates, and accident rates. Their work has also led to a closer collaborative relationship with national and community constituents.