



# RESEARCH PROJECT CAPSULE [ 23-8SS ]

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TECHNOLOGY TRANSFER PROGRAM

## Best Practices for Maintenance of Control Access Fencing

### JUST THE FACTS:

**Start Date:**  
January 1, 2023

**Duration:**  
18 months

**End Date:**  
June 30, 2024

**Funding:**  
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### POINTS OF INTEREST:

Problem Addressed / Objective of  
Research / Methodology Used /  
Implementation Potential

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### PROBLEM

Control of access fencing provides protection to the operation of controlled highways from outside right-of-way (ROW) interference. Departments of transportation (DOTs) often implement fencing to ensure mobility on high-volume roadways by preventing access to vulnerable road users (such as pedestrians, bicycles) and animals as well as restricting potential illegal entrance of vehicles from frontage roads and high-speed, high-AADT roadways that are fully controlled or partially controlled, more specifically on interstates and freeways. Figure 1 and Figure 2 display access control fences segregating frontage roads from I-10 interstates (in St. Tammany Parish) and the U.S. 90 freeway (between I-12 and LA 22), respectively.

Access control fencing has been identified to be a maintenance issue for DOTD, especially in areas of high-AADT urban areas where run-off-road (ROR) crashes into fencing are more frequent. Budgetary constraints in local governments in addition to these ROR crashes pose considerable challenges in undertaking proper fencing maintenance. Additionally, local governments sometimes request that the DOTD replaces or removes current fencing for both maintenance and aesthetic reasons due to limited funding. In addition to regular maintenance through repair, Louisiana's current engineering standards suggest rebuilding or reconstructing the existing fence may be necessary, especially in the case of a ROW acquisition by DOTD [3]. Maintenance costs of fencing can be directly linked to height of the fence and materials used. Louisiana's current design standard typically allows fences to be constructed at 5 ft. tall and often allows for an additional 1 ft. of barbed wire [3].

This research will be undertaken to identify measures to minimize fencing maintenance costs, while maintaining mobility on controlled-access highways. Additionally, it is equally important to conduct research on fencing alternatives in terms of materials and practices to reduce maintenance costs. The research will result in the development of maintenance cost minimization strategies that can be incorporated into DOTD maintenance practices.



Figure 1. Access control fencing on I-10 [1].



Figure 2. Access control fencing on US 90 [2].

## OBJECTIVE

The objectives of this project are to:

- Determine the best maintenance practices of access control fencing.
- Develop an informational guide for access control fencing maintenance that may aid in updating existing fencing policy.
- Determine alternative fencing and other practices to lower maintenance costs.

## METHODOLOGY

To achieve the objectives of this research, the following tasks will be performed:

- Review of Louisiana's fencing maintenance practices (literature and information review).
- Review of maintenance practices and survey of other jurisdictions.
- Evaluation and summary of data collection efforts.
- Development of recommendations for Louisiana.
- Prepare and deliver a final report detailing the findings of this study.

## IMPLEMENTATION POTENTIAL

An implementation of this study done by updating DOTD fencing policy may result in cost savings in terms of reduced maintenance associated with control of access fencing routinely damaged due to vehicle crashes. Also, the use of alternative fencing for control of access will further reduce maintenance costs while satisfying the need for aesthetic fencing.

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## REFERENCES

1. Google Earth, Access Control Fencing in St. Tammany Parish on U.S. 90, Google, 2022.
2. Google Earth, Access Control Fencing on U.S. 90 Freeway between I-12 and LA 22, Google, 2022.
3. Louisiana Department of Transportation and Development (LA DOTD), "Engineering Directives and Standards," 2017. [Online]. Available: [http://www.sp.dotd.la.gov/Inside\\_LaDOTD/Divisions/Engineering/EDSM/EDSM/EDSM\\_II\\_2\\_1\\_3.pdf](http://www.sp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/EDSM/EDSM/EDSM_II_2_1_3.pdf).