

EVALUATION OF LOW-COST URBAN ROAD SAFETY PROGRAM

Evaluation of the effectiveness of implemented road safety treatments at 33 local road intersections across three municipalities under the Low-Cost Urban Road Safety Program.

To enhance the safety of all road users, Main Roads Western Australia (MRWA) developed a Low-Cost Urban Road Safety Program (Low-Cost URSP) to target local road intersections that may be suitable for low-cost treatments to be installed in an area or the whole street, to enhance the safety of all road users.

The Australian Road and Research Board (ARRB) was engaged in evaluating the effectiveness of road safety treatments implemented as part of the pilot project under the Low-Cost URSP. The study's findings and recommendations will provide an opportunity to achieve maximum benefits from the Low-Cost URSP in future rollouts.

Background

The five-year crash trends (2015-19) indicate that casualty crashes were reported at more than 4,500 intersections in the Perth Metropolitan area, including 3,500 local road intersections, many of which are generally not eligible for funding under existing road safety grant programs. Recognising this, MRWA developed the Low-Cost URSP to target local road intersections suitable for low-cost treatments.

ARRB evaluated the effectiveness of the treatments implemented under this program and consulted with the local councils to gauge community perception about the Low-Cost URSP. ARRB commissioned traffic speed surveys, conducted traffic and crash data analysis, visited all project sites, and consulted with local government representatives as part of the evaluation process. The study recommended measures to enhance the program's effectiveness for maximum road safety benefits.

Approach

The figure below shows the adopted approach for this study, which includes the following key steps:

- Traffic data collection and crash stat analysis
- Consultation with local governments to gauge community reaction and have feedback from council officers
- Site visits to experience the real-time impact of the treatments
- To make recommendations for effective future rollouts





Low-Cost URSP Process

As per the Strategy and Implementation Framework, the process of the Low-Cost URSP includes the following five stages:

- **Stage 1** Local Neighbourhood (LN) Area Selection
- **Stage 2** Area Refinement
- **Stage 3** Community Consultation and Pre-construction Monitoring Data
- **Stage 4** Design, Cost Estimations and Construction
- **Stage 5** Innovation and Post-construction Monitoring Data.

Low-Cost URSP Treatment Options

As part of the pilot project under the Low-Cost URSP, MRWA implemented the following low-cost safety treatments at 33 intersections in three metropolitan LGAs:





Key Findings

- Generally, the implemented treatments were effective in keeping the 85th percentile speed below the default speed.
- There is generally a positive perception regarding the implemented treatments among local residents.
- Council officers suggested adopting a two-year staged approach for the Low-Cost URSP, to assist planning and design in the first year and on-ground delivery in the second year.
- There was insufficient evidence to demonstrate improvements in the safety for vulnerable road users.
- Local governments may have considered alternate or additional treatments if adequate time was available for planning and design.
- Council officers were not fully across the process described in the program strategy and Implementation Framework.

Recommendations

- Develop a typical layout plan for common low-cost treatments.
- The need of vulnerable road users should be considered in selecting treatment types.
- Increase awareness of the Low-Cost URSP amongst local government practitioners.
- Work in collaboration with local councils to develop practical planning and delivery timeframes.
- Develop pre- and post-treatment data analysis plans for each neighbourhood area.
- Consider using a combination of low-cost treatments where necessary to achieve desired safety objectives.
- Commission Safe System assessments for all project sites in a neighbourhood area to evaluate different treatment options and optimise alignment with Safe System principles.



The personal risk is higher on local roads. In contrast, the collective risk is higher on state roads.



Programs like Low-Cost URSP are critical to enhancing safety on local roads.



It is important to evaluate the benefits of this program to inform future initiatives to create a safer road environment for all road users.

FUTURE CONSIDERATIONS

- **Consider recommendations for this study in future rollouts under the Low-Cost URSP.**
- **Evaluate the effectiveness of treatments in future rollouts to better understand the sustained road safety outcomes.**
- **Commission a traffic and crash analysis study after four years of implementation to better understand if there has been a sustained change in speed and crash trends.**

References

Main Roads Western Australia, *Strategy and Implementation Framework Low-Cost Urban Road Safety Program*, DD#24187, MRWA, Perth, WA.

