Executive Brief: Reducing Accidents Involving Older Pedestrians in Bendigo

Meeting Date: [Select Meeting Date]

Item: [As per the agenda]

Core Message / Purpose:

This brief outlines key strategies to prevent accidents involving older pedestrians in Bendigo. It highlights intersections with high pedestrian accidents and suggests preventive measures tailored to vulnerable road users.

Recommendations:

1. Approve installation of pedestrian-focused safety measures, including signalized crosswalks and exclusive pedestrian phases, at identified high-risk intersections within city limits. This will address pedestrian conflicts with vehicles.

2. Endorse the introduction of lower speed limits in high-pedestrian-traffic zones, such as the city center, especially during peak times.

3. Launch public awareness campaigns aimed at drivers to improve yielding behaviors and increase awareness of pedestrian vulnerabilities.

4. Investigate pedestrian education programs targeting older adults to raise awareness about safer road-crossing practices.

Key Information:

1. The most significant risk is at intersections where vehicles turn right or cross busy roads.

Introducing exclusive pedestrian signal phases can prevent vehicle-pedestrian conflicts.

2. Speed limits should be reduced in pedestrian zones, especially during busy periods. Reduced speeds will allow drivers to react faster and reduce the impact of collisions.

3. Improved crosswalk designs, such as raised crosswalks and flashing signals, will enhance pedestrian visibility and give older pedestrians more time to cross safely.

4. Public awareness campaigns should remind drivers of their responsibility to yield to pedestrians and be extra cautious at busy intersections.

5. Educating older pedestrians on road safety will help prevent risky crossing behaviors, especially at intersections with complex road layouts.

Risks and Costs:

The primary cost involved is in upgrading intersection infrastructure (crosswalk signals, pedestrian islands). Public relations risks include potential backlash from drivers regarding reduced speed limits or changes to road layouts.A public awareness campaign may require funding but can mitigate PR risks by emphasizing safety improvements for pedestrians.

Data Sets and Models Used:

The following data sets were used in generating the recommendations and analysis presented in this brief:

1. **Bendigo Crash Data**: Contains details of accidents that occurred within the Bendigo council area, including the location, type of collision, and vehicle movements.

2. **Accident Location Data**: Used to map the geographic locations of the accidents to intersections, enabling the identification of high-risk areas and clusters.

3. **Person Involvement Data**: Provides information about the people involved in the accidents, including their age, gender, and role (driver, passenger, pedestrian).

4. **Vehicle Data**: Vehicle-specific information, including types and conditions, was used to understand crash dynamics.

Models and analytical methods used:

1. **Cluster Analysis**: DBSCAN clustering was used to identify high-risk locations by grouping accidents occurring within a specified radius of each other.

2. **Haversine Distance Formula**: Applied to calculate the distance between accident locations and identify accidents within the Bendigo city limits.

3. **Data Grouping and Filtering**: Group-by operations were used to identify common factors, such

as pedestrian age, injury level, and accident location, to generate targeted prevention strategies.

These models and analyses provided insights into pedestrian accident hotspots and informed the recommendations in this brief.