



# **Providing for Bicycles on Arterial Roads in Growth Areas**

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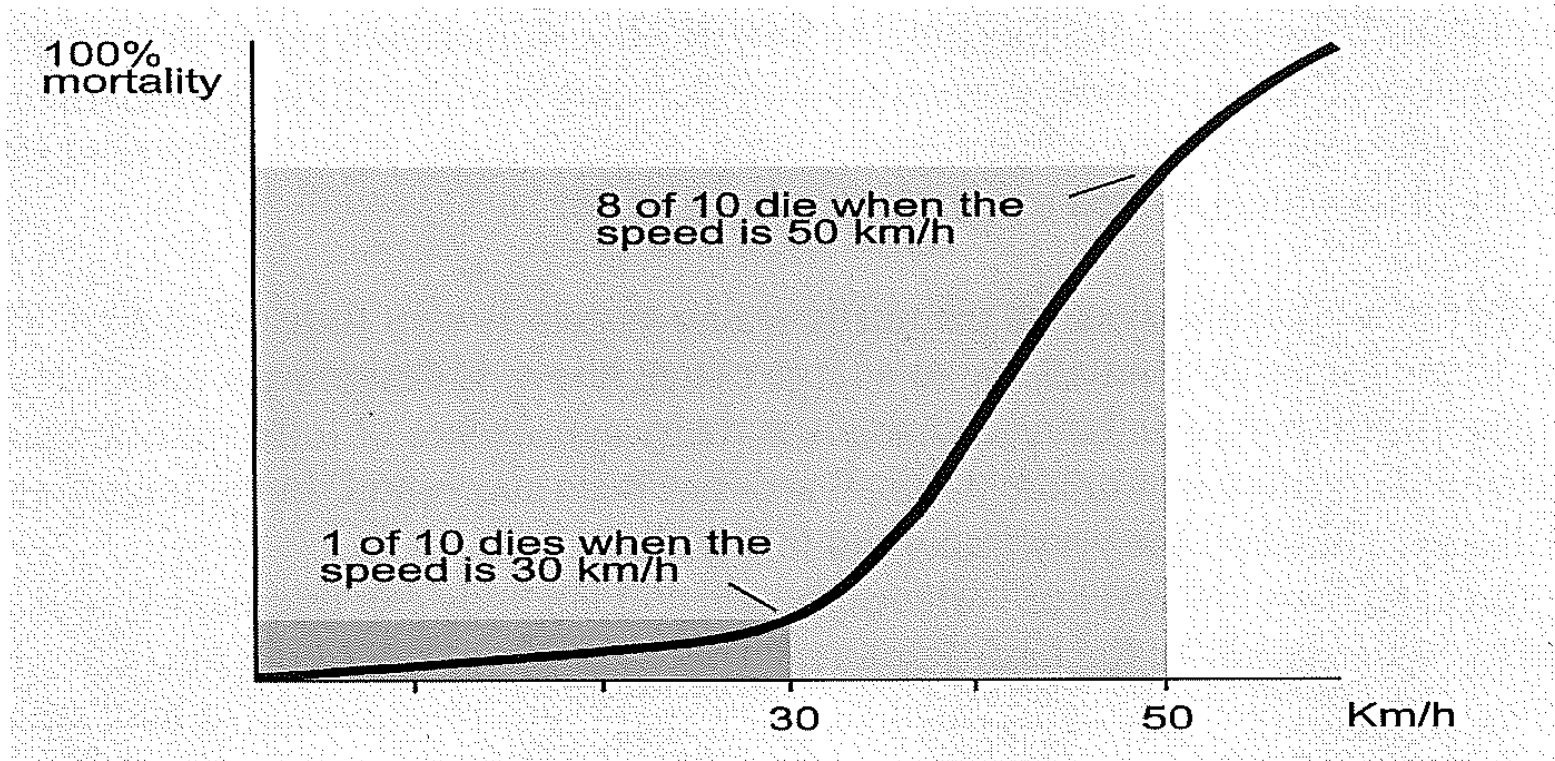
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# Bicycles & Arterial Roads in Growth Areas

- Create a clear and logical rationale for bicycle facilities arterial roads in Growth Areas
- Provide bicycle facilities that appeal to the widest cross-section of riders
- Proactively consider Bicycle Rider Requirements
  - Space to Ride
  - Smooth Surface
  - Speed Maintenance
  - Sight Lines
  - Connectivity
- Have a high regard for the safety of all road users, particularly unprotected bicycle riders and pedestrians

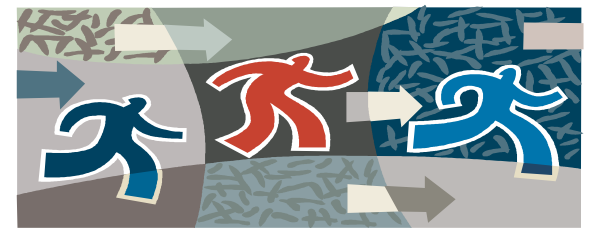
# Fatality Risk and Collision Speed



## Probability of Pedestrian / Cyclist Fatality by Car Collision

Source: Wramborg, P. (2005). *A New Approach to a Safe and Sustainable Road Structure and Street Design for Urban Areas*. Paper presented at Road Safety on Four Continents Conference, Warsaw Poland

# A Way Forward



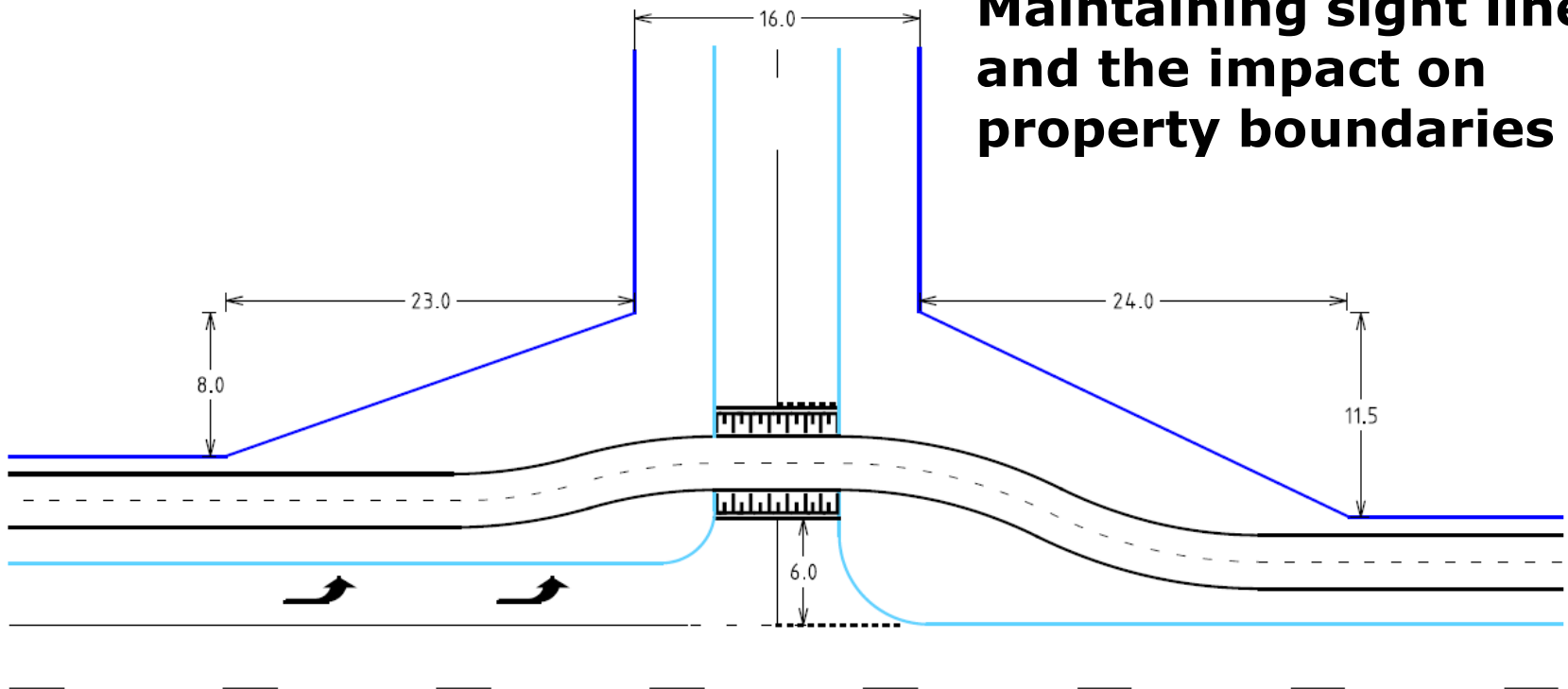
- On-road bicycle lanes have safety risks
- But off-road paths would need to be designed to provide for a broader range of cyclists
- The level of service currently provided by paths would need to be increased
- Arterial roads are a barrier – Two way paths would be needed on both sides of the road
  
- **Space to Ride** – 3m wide paths
- **Smooth Surface** – Quality and well maintained
- **Sight Lines** – Safe at cycling speeds
- **Connectivity** – Connected to other bike facilities and key destinations
- **Speed Maintenance** – Priority at side roads, slip lanes, and service roads

# Priority at Side Roads

Key design elements include:

- 30km/h bicycle design speed
- Raised crossing for bicycles
- Speed device for motor vehicles
- 6m storage for one car

**Key Issue:  
Maintaining sight lines  
and the impact on  
property boundaries**

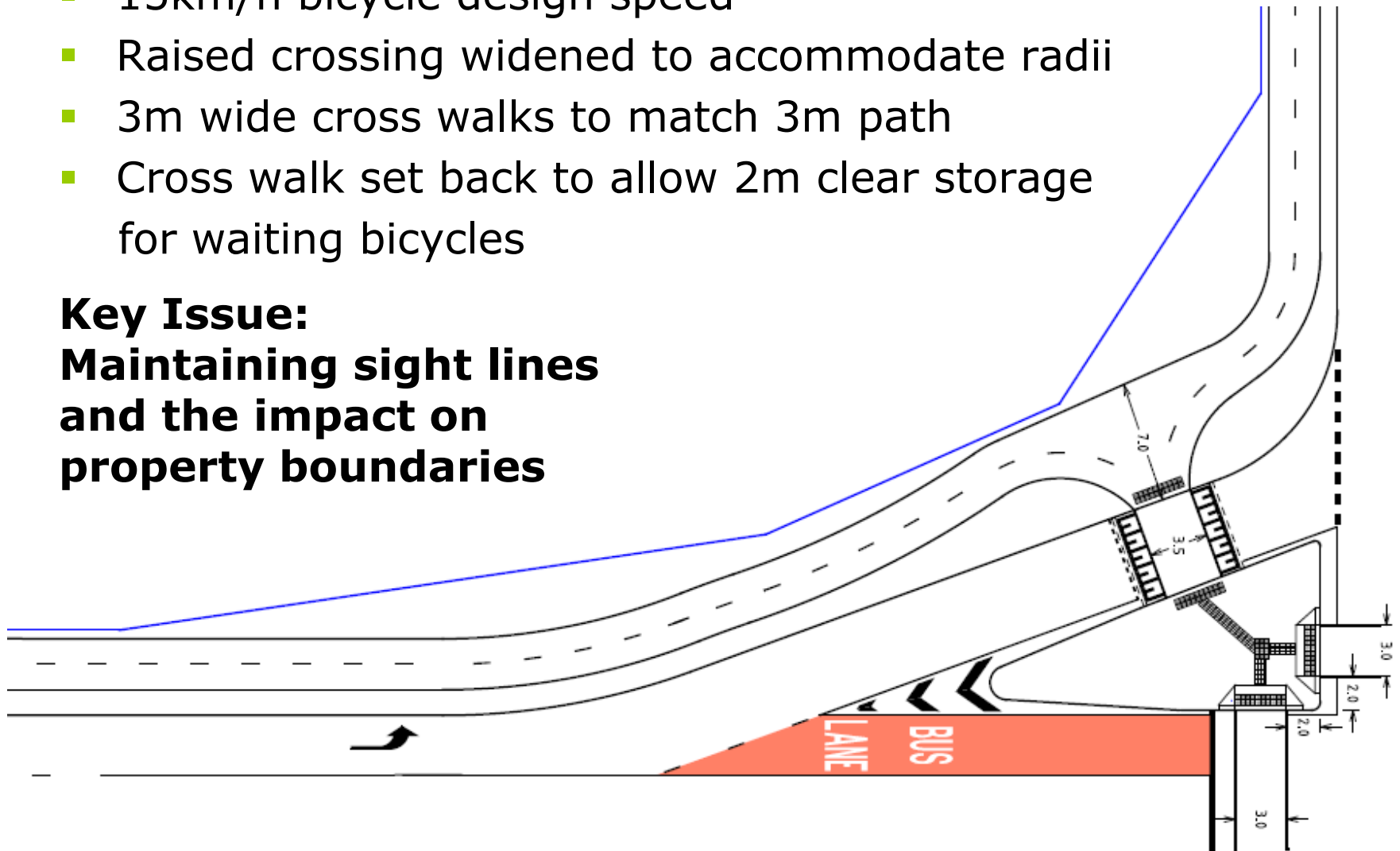


# Priority at Slip Lanes

Key design elements include:

- 15km/h bicycle design speed
- Raised crossing widened to accommodate radii
- 3m wide cross walks to match 3m path
- Cross walk set back to allow 2m clear storage for waiting bicycles

**Key Issue:**  
**Maintaining sight lines**  
**and the impact on**  
**property boundaries**



# Service Roads

The Challenge:

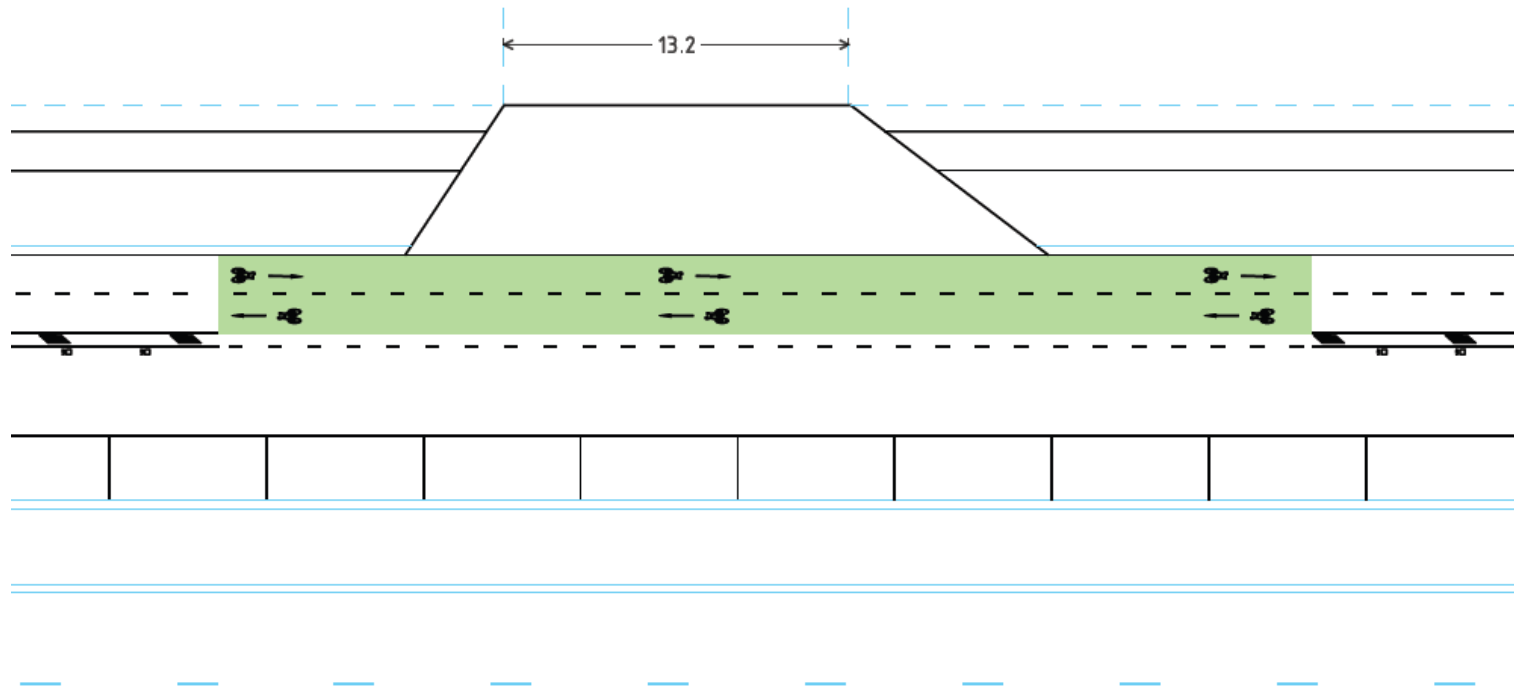
Two way "off-road" bicycle movements on a one way road

Best Option:

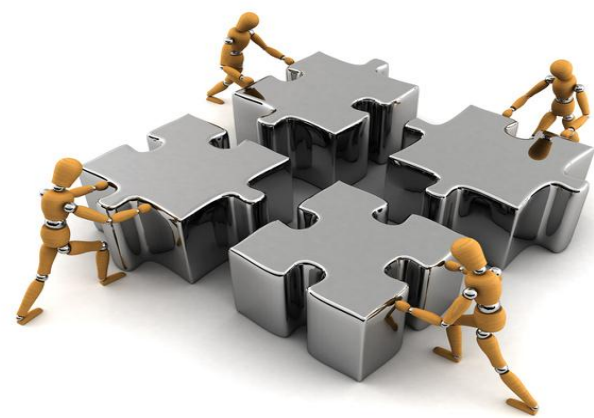
Two way "on-road" separated bicycle path with parking adjacent to separator

**Key Issue:**

**The issue of contra flow bicycles not being seen by exiting vehicle drivers**



# The Challenges Ahead



- Accepting the impact on property boundaries to achieve safe sight lines
- Realising that raised crossings on side roads and left turn slip lanes will be needed to focus motor vehicle drivers attention
- Dealing with service roads and unexpected contra flow bicycles
- Figuring out what to do with roundabouts and bicycles
- Achieving a high enough level of service to attract most of those riders who would have used the road