

Evaluating changes in work zone safety



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A wide variety of safety measures!



Informational Measures

- Regulatory and warning signage
- Variable message signage
- Speed feedback systems
- In-vehicle warning systems

Physical Measures

- Rumble strips, Perceptual measures
- Speed humps, Lane geometry
- Pilot vehicle, traffic control
- Lighting and visibility enhancement
- Smart technologies

Safety Measures

Educational Measures

- Public campaign
- Worker training
- Driver education and training

Enforcement Measures

- Speed camera
- Police car presence
- Higher violation fines
- Site audit/inspection





Trialling a new initiative?

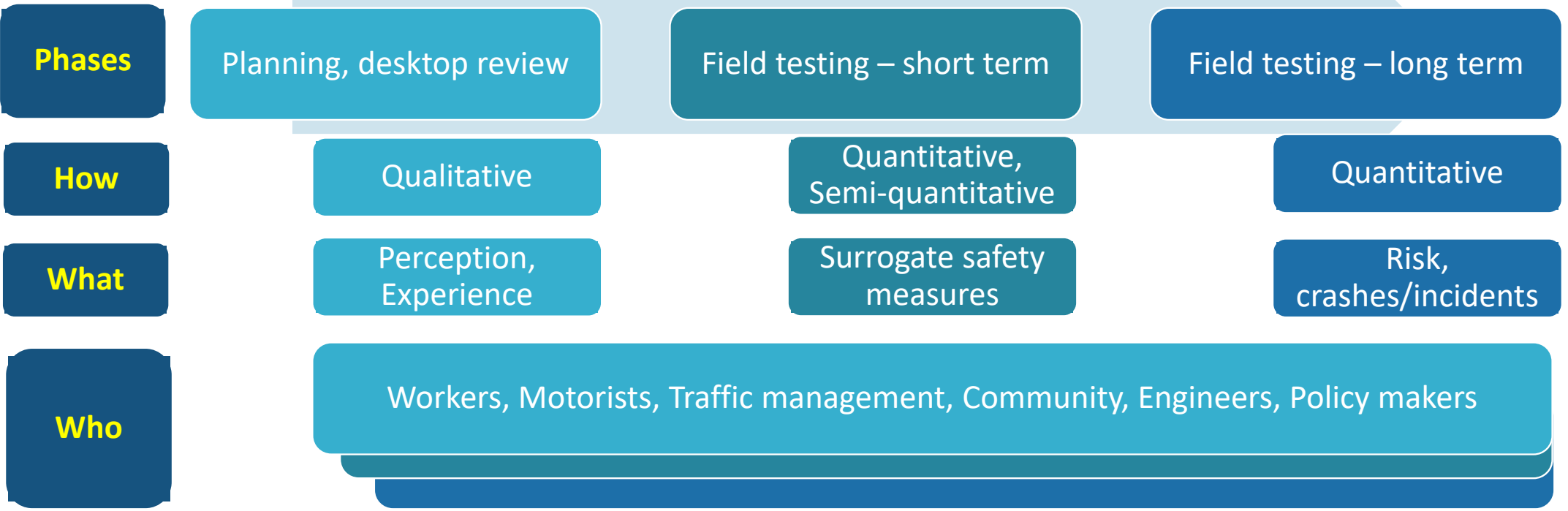
Installing a treatment/policy on site?

How do we evaluate if the change **will work**?

How do we evaluate if the change **is working**?

How do we evaluate if the change **will keep working**?

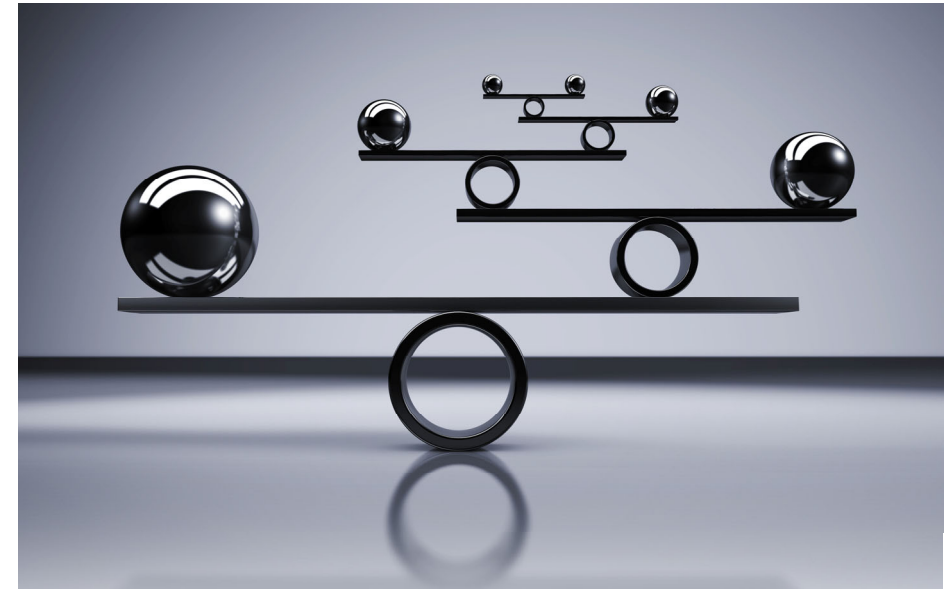
Evaluation framework



Factors to consider in evaluation



- **Are we comparing apples to apples?**
 - Site geometry
 - Traffic management plans
 - Traffic conditions
 - Environmental conditions
 - Time of day, day of week
 - Human factors
- **Spatial effects** – would safety effects extend beyond a treatment location?
- **Temporal effects** – would safety effects diminish immediately after removal of a treatment?
- Would a safety measure produce any **unwanted negative effects**, e.g., reduction in risk of a crash type but increase for another type



- **Simple 'before-after' comparison ignores many factors and often produces biased conclusions**
- **Consider 'control' conditions in evaluation**
- **Apply 'multivariate statistical techniques' to account for the effects of all potential factors**



Questions & Answers

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