SAFE SYSTEM FOR INTERSECTIONS TOWARDS "MOBILITY CITY"
Safe System for intersections

INTRODUCTION

WHAT IS SAFE SYSTEM INFRASTRUCTURE

System DESIGNERS and OPERATORS need to take into account the limits of the human body in designing and maintaining roads, vehicles and speeds.
ROAD SAFETY PROBLEM

1. Where are the Risk
2. What is the Required Fix
3. How to protect Vulnerable citizens (Ped. & cyclist)
INTERSECTION CRASHES ACCOUNT FOR MORE THAN 25% OF SEVERE INJURIES.

SAFE SYSTEM INTERSECTION DESIGN PRINCIPLES

FOR ALL ROAD USERS
Recent international research has developed a systematic way of analyzing the critical aspects of Safe System intersection performance.

- **Influence of Change in speed during Impact**
- **Effect of expected impact angles**
- **Considering multiple conflict points at a given intersection design**
- **Key crash configurations (frontal, near-side, far-side, rear, pedestrian)**

The diagram illustrates different aspects of intersection design principles, with a focus on the Kinetic Energy Management Model for Intersections (X-KEMM-X).
Relative FSI Probabilities | KEMM

01
Signalized intersection with safety platforms

02
Signalized Roundabout

03
Roundabout with safety platforms

04
Cut-through signalized intersection
Relative FSI Probabilities | KEMM
Improving Operational Efficiency

- Infrastructure automatically detects problems
- Systems automatically generate alerts and assign issues to people
- Systems help solve the most urgent and impactful problems
- Measure the impact of changes

Hope the change worked
Hope it had an impact
IMPROVING OPERATIONAL EFFICIENCY

SMART TRAFFIC OPERATION MANAGEMENT

1. Predictive safety analytics that incorporate continuous measurement of multimodal users, including pedestrians and cyclists

2. Active safety measures that detect when there's a safety risk and that respond accordingly
Vehicle Conflict Analysis
discover traffic dangers before they turn into accidents

Pedestrian Heat Maps
Pedestrian heat maps visualize pedestrian behavior and compliance

Real-time Pedestrian Detection
Continuous V2I messages alerting of pedestrian presence

Pedestrian Compliance
Measure pedestrian compliance (Jaywalking)

Driver Compliance
Driver compliance measurements (Crosswalk interference, red light running)

Cyclist Dilemma Zone
Extend green for cyclists caught in dilemma zones
THANK YOU