Geo-enabled solutions for improving urban road infrastructure management

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Urbanization – More people, More vehicles
Result

- Traffic congestion
- Fuel wastage
- Pollution
- Accidents
- Poor road quality
Pothole kills 25-year-old woman, 3rd victim in a month

BENGALURU: A 25-year-old employee of an IT firm riding pillion with her husband was killed after their scooter skid on a pothole on an east Bengaluru flyover on Thursday night. This is third death caused by the city’s notorious potholes in less than a month.
Road maintenance

Challenge: Limited resources
**Trails**

Aggregation and analysis of road condition through crowdsourcing

- **Key Features**
  - Speed Ahead
  - Bad Road Warning

- **Citizens**
  - Safety

- **Trails Database**
  - Administrative authorities
  - Date and Time Views
  - Average Speed
  - Road Quality

- **Benefits**
  - Pinpoint maintenance needs
  - Manage funds efficiently
Citizen
- Motorists gets alerts on bad road conditions

Administrator
- Identify road stretches with low average speed
- Pinpoint locations that need maintenance
- Identify congestion locations

Solution benefits citizen and administrators
Challenges

- Resource constraints on smartphones
  - Limited memory: Optimized geo-data storage
  - Low computing power: Efficient algorithms and configurations
- Data privacy: Data modelling and encryption
- User management: Federated login
How it looks